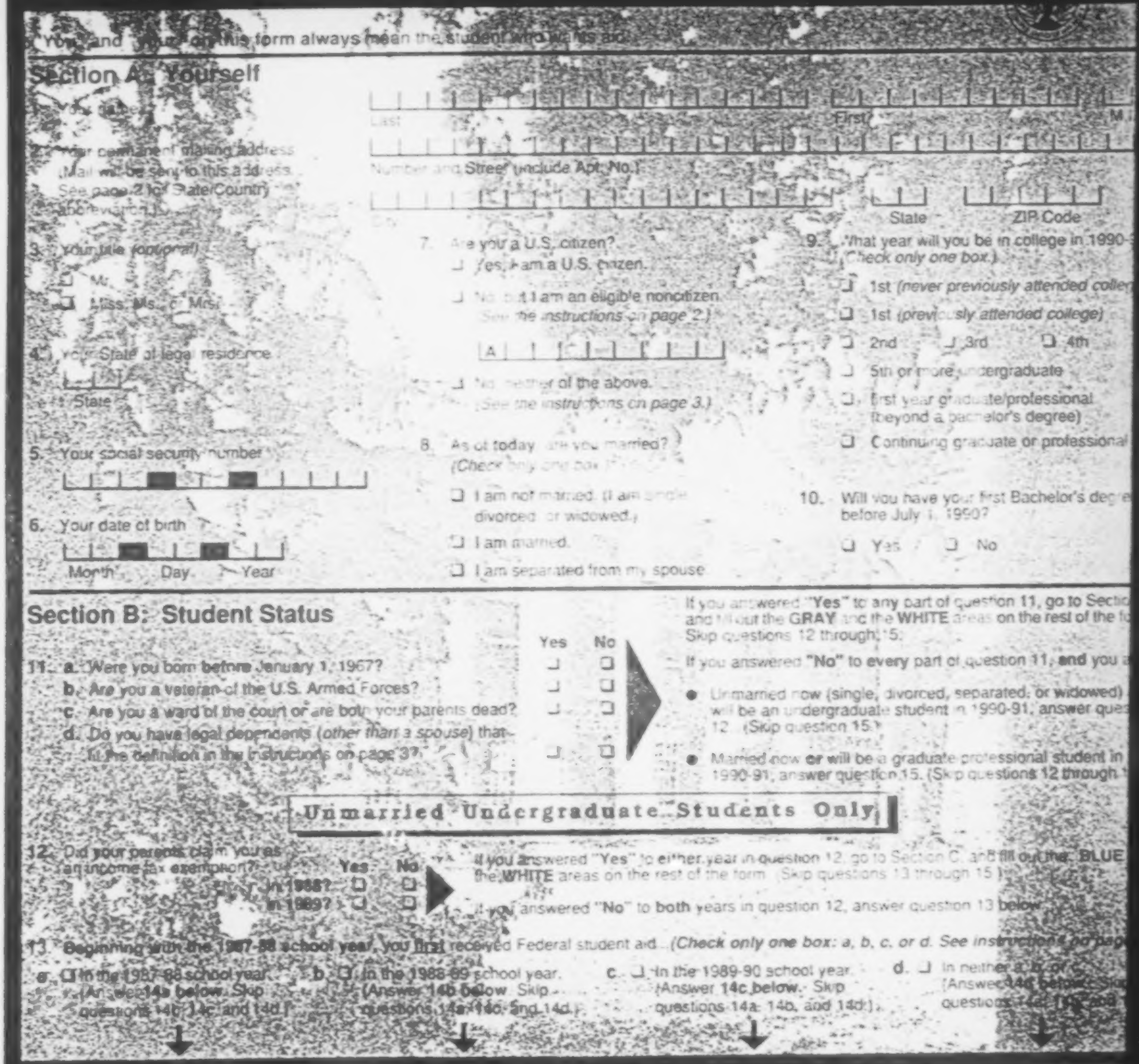
CONGRESS OF THE UNITED STATES
CONGRESSIONAL BUDGET OFFICE

JANUARY 1

Student Aid and the Cost of Postsecondary Education



"You" and "your" on this form always mean the student who wants aid.

Section A: Yourself

1. Your name

Last

First

M.I.

2. Your permanent mailing address (Mail will be sent to this address. See page 2 for State/Country abbreviation.)

Number and Street (include Apt. No.)

City

State

ZIP Code

3. Your title (optional)

☐ Mr.

☐ Miss, Ms., or Mrs.

4. Your State of legal residence

State

5. Your social security number

6. Your date of birth

Month Day Year

7. Are you a U.S. citizen?

☐ Yes, I am a U.S. citizen.

☐ No, but I am an eligible noncitizen. (See the instructions on page 2.)

A

☐ No, neither of the above. (See the instructions on page 3.)

8. As of today, are you married? (Check only one box.)

☐ I am not married. (I am single, divorced, or widowed.)

☐ I am married.

☐ I am separated from my spouse.

9. What year will you be in college in 1990-
(Check only one box.)

☐ 1st (never previously attended colleg

☐ 1st (previously attended college)

☐ 2nd ☐ 3rd ☐ 4th

☐ 5th or more undergraduate

☐ First year graduate/professional (beyond a bachelor's degree)

☐ Continuing graduate or professional

10. Will you have your first Bachelor's degre before July 1, 1990?

☐ Yes ☐ No

Section B: Student Status

	Yes	No
11. a. Were you born before January 1, 1967?	☐	☐
b. Are you a veteran of the U.S. Armed Forces?	☐	☐
c. Are you a ward of the court or are both your parents dead?	☐	☐
d. Do you have legal dependents (other than a spouse) that fit the definition in the instructions on page 3?	☐	☐

If you answered **"Yes"** to any part of question 11, go to Sectio and fill out the **GRAY** and the **WHITE** areas on the rest of the fo Skip questions 12 through 15.

If you answered **"No"** to every part of question 11, **and** you a

- Unmarried now (single, divorced, separated, or widowed) will be an undergraduate student in 1990-91, answer ques 12. (Skip question 15.)
- Married now **or** will be a graduate/professional student in 1990-91, answer question 15. (Skip questions 12 through

Unmarried Undergraduate Students Only

12. Did your parents claim you as an income tax exemption?	Yes	No
in 1988?	☐	☐
in 1989?	☐	☐

If you answered "Yes" to either year in question 12, go to Section C and fill out the BLUE the WHITE areas on the rest of the form. (Skip questions 13 through 15.)

If you answered "No" to both years in question 12, answer question 13 below.

13. Beginning with the 1987-88 school year, you first received Federal student aid... (Check only one box: a, b, c, or d. See instructions on page

a. ☐ In the 1987-88 school year. (Answer 14a below. Skip questions 14b, 14c, and 14d.)

b. ☐ In the 1988-89 school year. (Answer 14b below. Skip questions 14a, 14c, and 14d.)

c. ☐ In the 1989-90 school year. (Answer 14c below. Skip questions 14a, 14b, and 14d.)

d. ☐ In neither a, b, or c. (Answer 14d below. Skip questions 14a, 14b, and

A CBO STUDY

J932-6.

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STUDENT AID AND THE COST OF POSTSECONDARY EDUCATION

The Congress of the United States
Congressional Budget Office

38-086 - 91 - 1

PREFACE

The effectiveness of student financial aid in fostering equal educational opportunity has been questioned in the context of rising postsecondary education costs. In response to a request from Senator Domenici, Ranking Minority Member of the Senate Budget Committee, this study examines how federal, state, and institutional student aid promote equal educational opportunity by lowering the net cost of education that undergraduates and their parents must pay. It also considers some possible alternative federal policies concerning student aid that the 102nd Congress may wish to consider as it goes about reauthorizing the Higher Education Act of 1965, as amended. In accordance with the Congressional Budget Office's (CBO's) mandate to provide objective and impartial analysis, this study contains no recommendations.

Jay Noell of CBO's Human Resources and Community Development Division prepared the study under the direction of Nancy M. Gordon and Bruce Vavrichek. Computer support was provided by Eric Guille and Bryan Sayer. Several people provided useful comments on earlier drafts, including Jeanne Allen, Philip Bartholomew, Dan Goldenberg, Janet Hansen, Eric Hanushek, Robert W. Hartman, Arthur Hauptman, Roslyn Korb, John B. Lee, Dallas Martin, Maureen McLaughlin, Michael McPherson, Michelle Mrdeza, Constance Rhind, and Murray Ross.

Paul Houts edited the manuscript. Nancy H. Brooks provided editorial assistance. Ronald Moore prepared drafts of the manuscript, and Kathryn Quattrone and Martina Wojak prepared the paper for publication.

Robert D. Reischauer
Director

January 1991

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SUMMARY

Over the past 20 years, direct financial aid to postsecondary students from federal, state, and institutional sources almost doubled in real (that is, inflation-adjusted) terms, rising to an estimated $27.2 billion in the 1989-1990 academic year. The proportion of students getting aid also has increased substantially over that same period; indeed, in the fall of 1986, about 46 percent of undergraduate students got some type of financial aid, including 35 percent who received federal student aid.

Student aid is not, however, the only form of subsidy from which students benefit. States provide substantial funding for public postsecondary institutions that allow them to keep their tuitions below what it actually costs to educate students. Charitable contributions and earnings from endowments play a similar role for private institutions. In all, broad tuition subsidies from these sources amounted to an estimated $51.4 billion (in 1989 dollars) in the 1985-1986 academic year, compared with $23.8 billion in student aid (of which $18.1 billion was federal).

HOW SUCCESSFUL HAS STUDENT AID BEEN?

The growth in funding for student financial aid as well as the relatively large number of aid recipients raises the question, how effective is student aid? This question can be addressed in terms of the most widely cited goal of that aid--namely, to promote equal educational opportunity. One way this goal has been defined is that limited financial resources should not deny aspiring students *access* to some kind of postsecondary education and that all students should have some *choice* among institutions charging different levels of tuition and fees.

Student aid promotes equal educational opportunity by reducing the actual amounts that students and their families pay for postsecondary education. The basic questions in understanding the effects of student aid are:

- Who gets student financial aid?
- How much student aid do they receive?
- What is the resulting actual or net cost for postsecondary education?

HOW IS STUDENT AID AWARDED?

Most student aid is awarded on the basis of financial need. The current basic formula to determine a student's need for aid is:

THE STUDENT'S		THE AMOUNT THE		THE STUDENT'S
COST OF ATTENDING	–	STUDENT AND FAMILY	=	NEED FOR
SCHOOL		ARE EXPECTED TO PAY		FINANCIAL AID

The need for aid that this formula calculates is not absolute but relative, both to the family's ability to pay and to the cost of the institution attended. Using the formula helps to achieve the goal of equal educational opportunity in two ways. Because the need for aid increases as the amount the family is able to pay declines, it serves to increase access. Moreover, because the need for aid increases as a student's costs increase, it acts to foster choice.

Currently, before a student gets aid based on need, the student's family is required to pay all the costs they are able to meet. A procedure called "need analysis" determines that amount, which is known technically as the expected family contribution (EFC). The cost of attendance--tuition and fees, room and board, and miscellaneous expenses, including transportation and books--also directly affects the student's relative need for financial aid. This cost depends on choices that the student and his or her family make regarding which institution to attend and where to live while in school. Only students whose expected costs are greater than their EFC are eligible for aid based on need.

HOW IS STUDENT AID ALLOCATED?

How is student aid allocated? For this study, data from the 1987 National Postsecondary Student Aid Study conducted by the Department of Education provided the basis for examining the allocation of student aid--including grants, loans, and work study aid from federal, state, and institutional sources--to full-time dependent undergraduates in the fall of 1986. While the Congress has made a number of changes in the laws governing the distribution of aid since that time, the patterns of who receives aid probably remain similar to those found then.

Who Gets Student Aid?

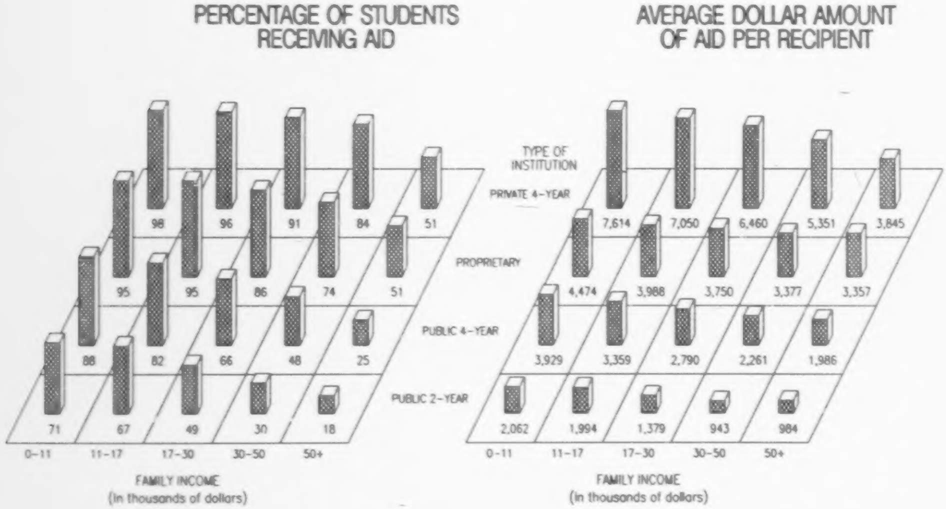
Which students receive aid reveals in part how well student aid promotes equal educational opportunity in terms of both access and choice. The pursuit of access calls for awarding aid inversely to the ability to pay. Thus, one expects that students from families that have lower incomes would be more likely to get aid, other things being equal. The pursuit of choice calls for aid to increase as costs of attendance increase. Thus, one expects that students attending higher-cost institutions would be more likely to receive aid--again, other things being equal.

Overall, the receipt of aid seems to follow the expected patterns, as shown in the left panel of Summary Figure 1. Ability to pay is measured in terms of family income, and cost of attendance is approximated by the type of institution the student attends (in ascending order of average cost, public two-year, public four-year, proprietary, and private four-year institutions; proprietary schools are operated for profit and specialize in trade, business, and vocational programs). Within each category of the cost of attendance, the proportion of students receiving aid increased as income declined. Further, at every income level, the proportion of students who got aid increased with the rising costs associated with the different types of institutions.

Those most likely to receive aid (98 percent) were students with the lowest family income attending the most costly institutions. Those least likely to get aid (18 percent) had the highest family income and attended the least costly institutions. Overall, about 57 percent of these full-time, dependent undergraduates received some form of student aid in the fall of 1986: 41 percent got federal aid, 21 percent received state aid, and 26 percent got institutional aid (see Table B-2 in Appendix B). (Because some students get aid from more than one source, the total is less than the sum of the parts.)

Similar patterns of receipt also existed for federal and state aid, but getting institutional aid depended more on the cost of attendance than on the ability to pay. Aid recipients at proprietary schools differed from those at other types of schools in part because higher proportions of them got federal aid.

Summary Figure 1.
Student Aid Allocation Patterns Among Full-Time Undergraduates, 1986-1987 Academic Year



PERCENTAGE OF STUDENTS RECEIVING AID

AVERAGE DOLLAR AMOUNT OF AID PER RECIPIENT

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Figures are based on full-time, dependent undergraduates.

In terms of the type of aid students received, 43 percent of full-time dependent undergraduates received grants, 31 percent got loans, and 10 percent got work-study aid. While receiving grant aid occurred in a pattern similar to receiving aid in any form, receiving loans depended more on the cost of attendance and less on family income. This pattern suggests that loans were more important in expanding choice among institutions than in ensuring access to education. Only students at proprietary schools were more likely to get loans than grants.

How Much Aid Do Recipients Get?

Along with who receives aid, the amount of financial aid that students receive is central to the concern for equal educational opportunity. Achieving this goal implies that recipients of aid would get increasing amounts of financial aid as their ability to pay declined and as their cost of attendance rose.

If one considers only students who received aid, the average amount of aid from all sources increased as family income decreased and as the cost of attendance increased, as shown in the right panel of Summary Figure 1. This pattern suggests that the financial aid administrators who actually "package" aid for students at each school generally used relative need as determined by the need analysis formula--described on page xiv--in making award decisions. The overall average award for aid recipients was about $3,600, ranging from an average of about $7,600 for recipients from families with the lowest incomes at the highest-cost institutions to an average of almost $1,000 for the relatively few aid recipients from families with the highest incomes attending the lowest-cost schools. (Note that the text and figure numbers are estimated averages and that variation around them exists.)

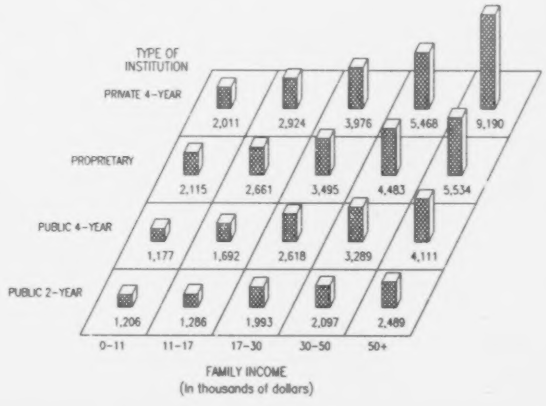
Relative need also determined how both federal and state aid were allocated, though to a lesser degree than it did total aid. Those who received federal aid at proprietary schools got more of such aid than did recipients at other types of institutions. While average amounts of total aid varied with both family income and cost of attendance, only grants as a type of aid appeared to do so. Average loan amounts varied relatively little with family income, although they did increase somewhat with the cost of attendance.

WHAT IS THE ACTUAL COST OF POSTSECONDARY EDUCATION TO THE STUDENT?

The actual or net cost of education that students and their families pay illustrates in part how student aid promotes equal educational opportunity. One can calculate this actual or net cost by subtracting the aid a student receives, if any, from the student's cost of attendance.

At every level of cost of attendance (again measured by type of institution), net cost declined as the ability to pay decreased, thus promoting access to postsecondary education (see Summary Figure 2). For example, a private four-year education that had an annual net cost of $9,200 for those with the greatest ability to pay had an annual net cost of about $2,000 for those with the least ability to pay. A public

Summary Figure 2.
Actual (Net) Cost of an Undergraduate Education, 1986-1987 Academic Year



SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Figures are based on full-time, dependent undergraduates. Net cost is calculated as total cost of attendance minus any student aid. The numbers in the figure are cell averages and variation in the amounts exists in each cell.

two-year education with an annual net cost of about $2,500 for those with the greatest ability to pay had an annual net cost of about $1,200 for those with the least ability to pay.

In addition, at every level of ability to pay, the incremental net cost of attending higher-priced institutions was reduced by aid, thus fostering choice. For example, the average annual gross cost difference between public two-year and public four-year institutions was about $1,900. There was essentially no difference in cost for students with the least ability to pay, however, and the difference was about $1,600 for those with the greatest ability to pay.

These findings on net costs, however, do not take into account the differing levels of subsidies provided by grants, loans, and work-study aid. Grants are all subsidy, but loans and work-study aid are not, since loans must be repaid (at least in part) and work-study aid must be earned on the job. After adjusting the value of student aid to count as subsidies the full amount of grants, 40 percent of loans, and none of the work-study aid (as discussed in Chapter IV), the pattern of net costs remains similar at public two-year and four-year institutions. At the same time, net costs became relatively higher at proprietary and private four-year institutions because average loan amounts to recipients were highest at these institutions.

WHAT ARE THE KEY STUDENT AID POLICY ISSUES?

The findings from this analysis raise several issues concerning student aid policy, including:

- Is the current pattern of actual (or net) costs of postsecondary education reasonable?
- Should proprietary schools have separate student aid programs? and
- What should be the federal role in providing aid?

Are Actual Costs Reasonable for Meeting Access and Choice Objectives?

Although this study cannot resolve the question of whether the net costs of postsecondary education are reasonable in terms of meeting the objectives of access and choice, its results can shed some light on this issue. The logic of the current formula for analyzing need is that net costs are reasonable if they are equal to or less than the expected family contribution (EFC). Given that, students can then attend school without paying more than an analysis of need has determined their families are able to pay. Average net costs exceed average EFCs for some groups of students, however, thus raising the question of how well the objectives of access and choice are being met.

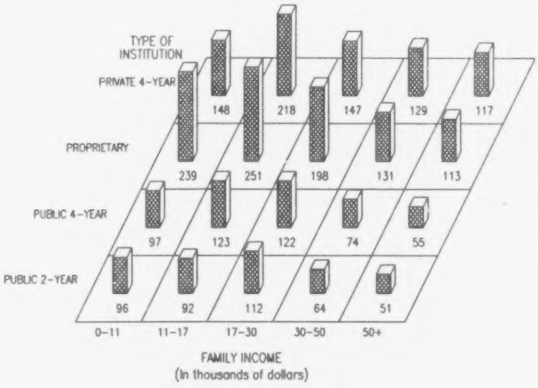
When using the standard of net cost less than or equal to EFC to assess whether access is being achieved, the basis issue is the type of school that students should have access to regardless of their ability to pay.

Some people argue that the basic school of access should be the public two-year institution, widely known as the community college, because these institutions receive substantial (primarily state) subsidies to keep tuitions low and they provide a wide range of academic and vocational programs. Others argue that it should be the public four-year institution, since they believe postsecondary education should be primarily academic in nature and a four-year degree has traditionally been the goal of postsecondary education. By implication, more expensive types of institutions become schools of choice--namely, proprietary schools and private four-year institutions, as well as public four-year institutions if public two-year institutions are schools of access.

The standard of net cost equal to or less than EFC is not, however, appropriate for evaluating the degree to which choice has been achieved. The basic problem is that this standard assumes that aid should meet all need--that is, the difference between total costs and the resources available to a student in the form of their EFC. But unmet need will generally exist because, if it did not, students would have strong incentives to choose the most expensive school that would admit them. Similarly, schools would have incentives to increase their tuitions, knowing that the EFC would be the maximum cost to the student. Evaluating whether choice is being achieved, then, requires determining how much larger net cost can be than EFC at schools of choice and still be reasonable.

With respect to schools of access, students attending either public two-year or public four-year institutions on average had net costs below the amounts their families were expected to pay. Students with family income between $11,000 and $30,000 attending public four-year schools, however, had an average net cost greater than EFC. Summary Figure 3 shows net cost relative to EFC, by category of family income, for students at these and other types of institutions in terms of net cost as a percentage of EFC. Net cost is shown as 100 percent of EFC when the two are equal. A value below 100 percent indicates that net cost is less than EFC, while a value greater than 100 percent shows the extent to which net cost is greater than EFC.

Summary Figure 3.
Actual (Net) Cost of an Undergraduate Education as a Percentage of Expected Family Contribution, 1986-1987 Academic Year



SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Figures are based on full-time, dependent undergraduates. Net cost is calculated as total cost of attendance minus any student aid. Expected family contribution (EFC) is determined by an analysis of need. The numbers in the figure are cell averages and variation in the amounts exists in each cell.

With respect to schools of choice, students with the lowest family income and those with family income of more than $30,000 who chose a public four-year institution over a public two-year school had an average net cost below their average EFC. Choice of a private four-year or a proprietary institution resulted in net costs that were, on average, higher than EFCs. Net costs averaged about 50 percent higher than EFCs for students from families with the lowest income attending private four-year institutions and about 140 percent higher for students with the lowest family income attending proprietary schools.

Two general responses are possible to these findings. On the one hand, one could conclude that the current aid system is working well in achieving equal educational opportunity because, on average, students were able to enroll in public two-year institutions without paying more than their EFCs. Furthermore, students from families with the lowest incomes were able to choose private four-year schools over public two-year institutions for an additional net cost that averaged only about $800.

On the other hand, one could conclude that the current aid system is not working well because, on average, students from families with income between $11,000 and $30,000 enrolling in public four-year institutions had net costs greater than their EFCs. Moreover, if aid is not counted at face value, but instead is adjusted to account for the portion of loans and work-study aid that are not subsidies and must be repaid or earned as wages, then net cost exceeds the EFC on average, even at public two-year institutions, for all groups of students except those with family incomes above $30,000. With respect to the goal of choice, starting from the position that access requires enrollment in a public four-year institution, one could argue that the costs of choosing a proprietary or private four-year institution are unreasonable, since on average net costs significantly exceeded EFCs for students who did so. Not counting loans and work-study aid at face value would reinforce this concern.

If one judges that the net costs for some students are either too high or too low, several options are available. One option is to change the expected family contribution, either for some or all students.

Lowering the EFC would result in lower net costs if sufficient aid were available to meet the resulting increase in financial need. The primary advantage of doing so, especially for students from families with low incomes, is that it would expand access. A disadvantage is the cost of providing additional aid in a time of already large budget deficits.

In contrast, the EFC could be raised, which would result in higher net costs for students. An advantage of this approach is that it would encourage prospective students to consider more carefully whether they would benefit from going to college, thereby increasing economic efficiency. A disadvantage is that it could prevent some students from attending postsecondary institutions and result in others choosing less expensive schools.

An alternative to changing the net costs of some students is to modify the mix of aid that goes for access as opposed to choice. An advantage of shifting existing aid toward providing access is that this could open up postsecondary enrollment for more young people from families with low incomes. Having more aid go for choice, in contrast, could allow many current students--especially from families with low incomes--to attend higher-cost institutions.

Net costs could also be changed by increasing or decreasing the total amount of aid available within the current financial aid system. The argument for increasing the amount of aid available, and hence lowering net costs, is that it could expand both access and choice. The argument against it is that additional aid would have to come at the expense of other federal spending or would require increased revenues if the budget deficit is not to be enlarged. The argument for reducing the amount of aid, and hence increasing net costs, is that, given the large federal deficit facing the country, some tightening up is appropriate among many programs. The argument against reducing aid is that some students might not attend postsecondary institutions or might have to choose lower-cost ones.

Finally, the mix of aid as grants and loans could be changed. Increasing the portion of aid provided as grants would lower net costs to students because the loans they would otherwise receive would have to be repaid. This reduction could, in turn, encourage more youth to attend postsecondary institutions. The disadvantage is that replacing loans with grants would be extremely expensive, since the long-run cost of a grant is roughly two- and one-half times that of a loan of the same size.

Should Proprietary Schools Have Separate Student Aid Programs?

Increasing attention is being paid to the issue of whether proprietary schools should have their own aid program, especially at the federal level. This study has shown that students at proprietary schools have notably different patterns of receiving aid, especially federal aid. Basic to the issue of separate aid programs is the nature of the services proprietary schools provide. One perspective holds that postsecondary education constitutes a spectrum of institutions--providing both academic and vocational programs--from research universities through colleges and community colleges to vocational schools, many of which are proprietary. From this point of view, people could interpret separate aid programs for proprietary schools as a signal that some forms of postsecondary education are better than others.

An alternative perspective observes that education and job training are different. Education is concerned with clarifying values and transmitting knowledge, while job training consists of learning a set of skills to sell in the labor market. Clearly, drawing a line between the two can be exceedingly difficult--the knowledge imparted in getting an education helps get a job and higher income after college. Nonetheless, larger institutional purposes are distinctly different. Separate programs for proprietary schools would permit legislation and regulations to be sensitive to the nature of the services they provide.

What Should Be the Federal Role in Providing Student Aid?

A final policy issue concerns whether the federal role should be changed to encourage allocating all postsecondary subsidies, including state subsidies, on the basis of financial need. As the largest provider of student aid, the federal government plays the central role in defining what equal educational opportunity means in terms of student aid. But federal policies of basing aid on need now operate in the context of substantial public subsidies to institutions that benefit all students regardless of their need for financial aid.

The main argument in favor of expanding the federal role in allocating all postsecondary subsidies is that the current practice of lowering tuition and fees for everyone through institutional subsidies unnecessarily benefits students from high-income families and results in some young people from low-income families not getting a postsecondary education because of inadequate aid. The argument against changing the federal role is that the Tenth Amendment to the Constitution vests responsibility for education with the states, which have generally chosen to follow a low-tuition policy to provide access to all students. The reauthorization of the Higher Education Act of 1965, as amended, which expires in 1991, gives the Congress an opportunity to consider changing the federal role to take into account all postsecondary subsidies, as well as to address other policy issues, including those raised in this study.

CHAPTER I

AN INTRODUCTION TO STUDENT FINANCIAL AID

Financial aid to help students and their families pay for postsecondary education has grown remarkably over the past two decades. In the 1970-1971 academic year, direct aid to postsecondary students from federal, state, and institutional sources was $14.2 billion measured in 1989 dollars (see Figure 1). By the 1989-1990 academic year, it had almost doubled in real (or inflation-adjusted) terms to an estimated $27.2 billion, of which about 73 percent came from the federal government. Over that period, enrollment in postsecondary education (excluding proprietary institutions for which data on trends are not available) grew more slowly, from 8.6 million to an estimated 13.5 million, or by about 57 percent.[1] In the fall of 1986, 46 percent of undergraduate students got some type of financial aid; about 35 percent received federal student aid.

HAS STUDENT AID BEEN SUCCESSFUL?

The large amount of funding for student financial aid as well as the large number of recipients of aid inevitably raise questions about the effectiveness of student aid. This aid was intended to serve a diverse set of purposes, but its most widely cited goal is to promote equal educational opportunity. Equal educational opportunity has been defined as meaning that limited financial resources should not deny aspiring students *access* to some kind of postsecondary education or some *choice* among postsecondary institutions charging different levels of tuition and fees.

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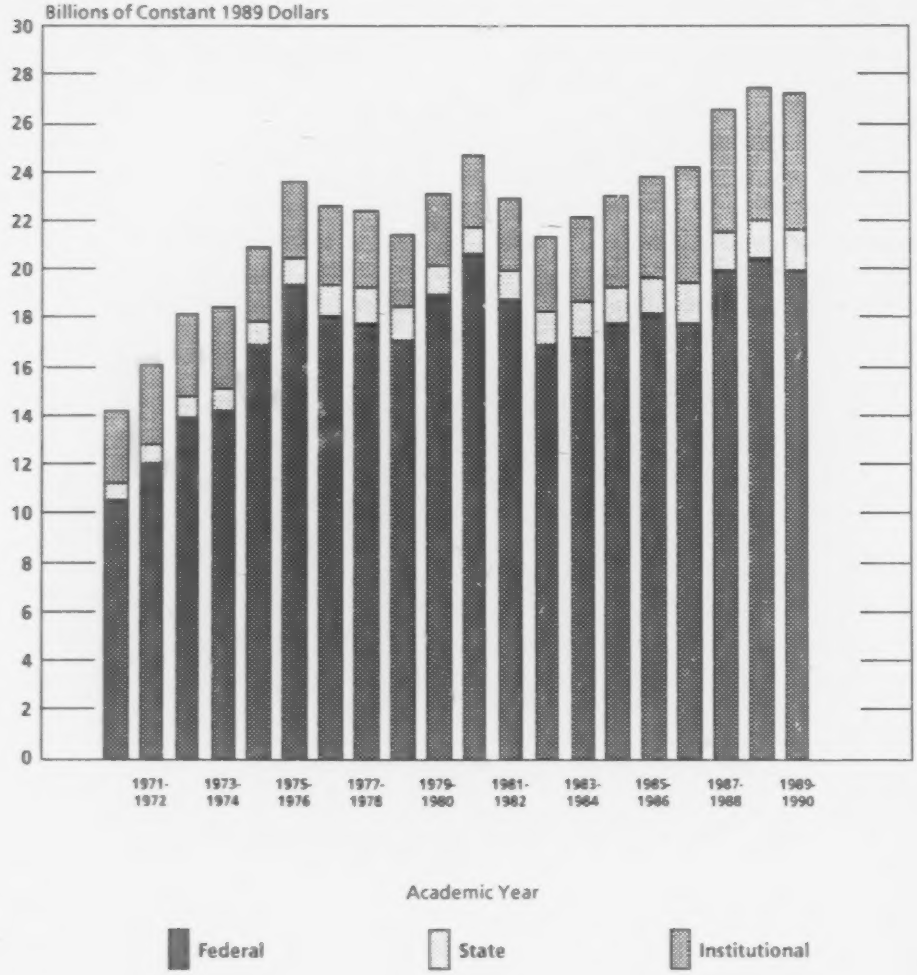
[1] Proprietary (private for-profit) institutions generally offer vocational, business, and trade programs. Regular collection of enrollment data on most proprietary institutions started in 1986-1987. See the glossary for more detail on proprietary institutions.

Figure 1.
Financial Aid for Postsecondary Students from Federal, State, and Postsecondary Institutional Sources During the 1970-1971 to 1989-1990 Academic Years (In billions of constant 1989 dollars)



SOURCE: College Board, *Trends in Student Aid*, August 1990.

NOTE: The data are the sum of all aid from federal, state, and institutional sources and include grants, loans, and work-study aid. Figures for the 1988-1989 and 1989-1990 academic years are estimates.

One reason for concern about the effectiveness of student aid in promoting equal educational opportunity is that such aid has not eliminated large differences in postsecondary enrollment rates by family income. One can readily see these differences in full-time college enrollment among the traditional college-age population--17- to 24-year olds who are still financially dependent on their families.[2] The enrollment rate of undergraduates from families earning more than $50,000 is greater than twice that of students from families earning less than $11,000: 55 percent as opposed to 25 percent (see table below). Although these data do not address the issue of choice of postsecondary institution, they do show that access to postsecondary education--as defined by actual enrollment--remains strongly related to family income.

	Family Income (Dollars)				
	0-11,000	11,000-17,000	17,000-30,000	30,000-50,000	More Than 50,000
Percentage of High School Graduates	25.4	29.2	34.4	46.2	55.0

SOURCE: Congressional Budget Office calculations based on data from the October 1986 Current Population Survey (CPS).

NOTE: These calculations exclude students enrolled in proprietary (for-profit) schools, because comparable data are not available in the CPS.

Nonetheless, large differences in college enrollment rates by family income are not sufficient by themselves to assess the effects of student aid for several reasons. First, these data do not show the extent to which student aid may have increased college enrollment among lower-income families. Without student aid, children from low-income families might have significantly lower enrollment rates than they do now. Second, these data do not show the effects of other factors that could influence attendance, such as a student's academic achievement and occupational and educational aspirations.

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[2] Among full-time undergraduates in the fall of 1986, about 78 percent were financially dependent on their parents and about 22 percent were financially independent. See Table 5 on page 30 for additional data on patterns of undergraduate enrollment.

To deal with these issues, some researchers have developed an alternative way--that is, using statistical models--to assess the effects of student aid on both access and choice. By developing such models, these researchers have attempted to estimate the effects of student aid while statistically controlling for possible changes in enrollment that stem from other factors. Some of their models indicate that financial aid has increased total postsecondary enrollment as well as the share of students who choose higher cost institutions. Other researchers, however, continue to doubt that student aid has produced those effects. The fundamental problem is that no one knows what enrollment patterns would be without aid.

This study uses a different approach to assess student aid--namely, it looks directly at how financial assistance reduces the "net cost" of postsecondary education to students and their families. Net cost is the actual cost to students--and their families--to attend school. It is what remains to be paid after aid has been subtracted from the total cost (which includes full tuition and fees, room and board, and miscellaneous expenses such as books, transportation, and supplies).

From this perspective, student aid is assessed in terms of who pays what net cost for the education. The basic questions in understanding student aid are:

- Who gets student financial aid?
- How much student aid do recipients receive?
- What is the net cost to recipients and other students?

This approach directly examines the way student aid tries to promote equal educational opportunity. It addresses the issue of access to postsecondary education by answering the above questions using the level of family income as an indicator of ability to pay (which, strictly speaking, also depends on family assets). This approach also assesses choice by answering the questions using different types of postsecondary institutions as a measure of the cost of attendance (in ascending cost of attendance, the types of institutions are public two-year, public four-year, proprietary, and private four-year). (See the glossary for a definition of these school types as well as for an explanation of other terms.) In addition, this study examines the effects on net costs of different types of aid (grants, loans, and work-study aid) from different sources (federal, state, and institutional).

THE ROLE OF TUITION SUBSIDIES

While a great many people view student aid as essential to promoting equal educational opportunity by reducing the net cost of postsecondary education, in fact students also benefit from other subsidies that reduce the posted tuition and required fees they face even before getting student aid. These subsidies for tuition reduce the average levels of tuition and required fees that postsecondary institutions charge students. Moreover, they reduce them below the actual costs that institutions incur in providing education to students. Among public institutions, most tuition subsidies come from state governments; among private (nonprofit) institutions, a large share comes from annual charitable contributions plus endowment earnings reflecting past contributions. In contrast, most student aid subsidies come from the federal government.

Tuition subsidies are defined in this study as the difference between what an institution spends on a student and what it charges the student (on average) for tuition and required fees. These subsidies are quite large. In the 1985-1986 academic year, they amounted (in 1989 dollars) to an estimated $51.4 billion compared with about $23.8 billion in student aid, of which $18.1 billion was federal.

What is spent on educating students varies by type of postsecondary institution. Private nonprofit institutions spend more per student on average than do public institutions, and universities (which award graduate and professional degrees) spend more than four-year institutions (which award baccalaureate degrees). Four-year institutions, in turn, spend more than two-year institutions. The average amount spent educating students by proprietary (private for-profit) schools is not known.

Although tuition and fees for private nonprofit and public institutions follow the same pattern as expenditures per student, the difference between them--that is, the tuition subsidy per student--does not. Private nonprofit universities provide the largest tuition subsidy per student--an average of about $7,500 per full-time equivalent student in the 1985-1986 academic year (the difference between $14,861 in expenditures per student and $7,374 in average tuition and fees), as shown in Table 1. Next highest were public universities, which provided on average a subsidy of more than $6,600 per student, followed by public four-year schools at $6,100, public two-year institutions at $3,500, private four-year institutions at $2,700, and private two-year schools at $440. Comparable national data for proprietary institutions are not available.

Since the general purpose of tuition subsidies is to lower the tuition and fees that students must pay, each student attending an institution being subsidized in effect receives a "scholarship" equal to the tuition subsidy. Thus, students at private nonprofit universities received a "scholarship" (tuition subsidy) worth on average about $7,500 in 1985-1986 even before one considers the subsidies provided as student aid.

The largest number of student beneficiaries of tuition subsidies are at public postsecondary institutions. Public institutions have long been operated on the basis of the so-called "low-tuition principle." Over the past decade, this principle has required substantial and growing real tuition subsidies--mostly in the form of appropriations from states to institutions--to keep tuition low in the face of education costs that have increased faster than inflation. Private institutions also continuously seek larger subsidies to hold down their tuition increases.

A primary purpose of the low-tuition principle at public institutions has been to ensure access to prospective students from all income levels. The underlying rationale for providing these public subsidies has been that educated individuals benefit society in general. This view implies that public subsidies should be made available to encourage more people to continue their formal education. During the 1960s and 1970s, public subsidies for postsecondary education grew substantially, and many new public two-year and four-year institutions were opened and generally operated under the low-tuition principle. As a result, more people got access to and enrolled in postsecondary education.

TABLE 1. UNDERGRADUATE TUITION SUBSIDIES PER FULL-TIME-EQUIVALENT STUDENT, BY TYPE OF POSTSECONDARY INSTITUTION, 1985-1986 ACADEMIC YEAR (In dollars)

	Type of Institution		
Type of Expenditure	University	Other Four-Year	Two-Year
Public			
Education and General Expenditures Per Full-Time-Equivalent Student[a]	8,183	7,302	4,136
Average Undergraduate Tuition	1,536	1,157	641
Tuition Subsidy Per Full-Time-Equivalent Student	6,647	6,145	3,495
As a percentage of education and general expenditures	81.2	84.2	84.5
Private Nonprofit			
Education and General Expenditures Per Full-Time-Equivalent Student[a]	14,861	8,319	4,108
Average Undergraduate Tuition	7,374	5,641	3,672
Tuition Subsidy Per Full-Time-Equivalent Student	7,487	2,678	436
As a percentage of education and general expenditures	50.4	32.2	10.6

SOURCE: Congressional Budget Office estimates based on data from Department of Education, *Digest of Education Statistics, 1989.*

NOTE: Expenditures exclude proprietary institutions because data are not available.

a. Education and general expenditures are those made by institutions on behalf of students. They include expenditures on instruction, administration, student services, libraries, operation and maintenance of plant, scholarships and fellowships, and mandatory transfers. Education and general expenditures in this table are presented as the average amount for a full-time-equivalent student.

Although public tuition subsidies may have increased enrollment, many analysts have criticized them as wasteful because they benefit all students who attend public institutions, regardless of whether they need financial assistance. Many of the students at public institutions would have attended some postsecondary institution even if they had not received public subsidies. Furthermore, some analysts argue that such public subsidies primarily benefit youth from higher- and middle-income families because they attend postsecondary institutions in the greatest number. Even with subsidized tuition, many people from lower-income families cannot afford postsecondary education (whose real costs include living expenses along with tuition and fees), especially if they must reduce their hours of paid employment.

Analysts have also pointed out that tuition subsidies by state and local governments affect private institutions. Although private institutions receive subsidies that allow them to reduce tuition for their students, these subsidies have not increased enough to prevent them from having to increase their tuition and fee levels faster than public institutions. As a result, the difference in tuition between private and public institutions has been growing both absolutely and relatively. This outcome, in turn, has given rise to two concerns among supporters of private institutions. First, the continued existence of some private institutions may be threatened because they cannot compete with the government-subsidized tuition levels charged at public institutions. Second, students from low-income--and increasingly from middle-income--families may be unable to afford to attend private institutions unless they make extraordinary financial sacrifices.

Regardless of how much tuition subsidies have increased enrollment, there is general agreement that these subsidies alone cannot achieve equal educational opportunity; student aid is also essential. Although public institutions have low tuition, many young people from low-income families need additional aid because other expenses, especially living costs, must still be paid. Students must often quit jobs or reduce their work in order to attend school, and thus may have difficulty paying basic living costs. Strictly speaking, students probably bear the largest costs for postsecondary education in terms of forgone earnings. That is, students lose the income they would have received had they not been attending school. The amount of these earnings is probably greater than all the subsidies they receive.

Student aid based on financial need also assists middle-income students who want to choose more costly institutions, most of which are private. Often, the higher costs of attending private institutions (primarily, tuition and fees) are beyond the financial ability of these students and their families. Student aid can provide the additional resources needed that, in conjunction with some extra effort on the part of students and their families, allow these students to enroll in more expensive institutions.

CHAPTER II

HOW IS STUDENT AID AWARDED?

This chapter describes how most student aid is supposed to be awarded. While each type of student aid often has particular rules for its award, common rules for awarding student aid as a whole are widely observed, especially when financial need is involved. Whenever federal student aid is involved, general rules are embodied in federal legislation that limit who gets what amounts of aid.

To assess the patterns of who receives aid, one must first understand the relationship between how most student aid is intended to be awarded and the goal of equal educational opportunity. Most student aid is awarded on the basis of financial need. The current basic formula used to determine a student's financial need for aid is

THE STUDENT'S COST OF ATTENDING SCHOOL - THE AMOUNT THE STUDENT AND FAMILY ARE EXPECTED TO PAY = THE STUDENT'S NEED FOR FINANCIAL AID

The cost of attendance includes the expected amount that the student will need during the academic year to meet costs of tuition and fees, room and board, and miscellaneous expenses. The amount that the student and his or her family are expected to pay is known as the expected family contribution (EFC) and is based on the family's ability to pay, as discussed in detail below. Subtracting the EFC from the student's budgeted costs results in the amount of financial need a student has for aid.

In other words, the formula provides that, as the student's cost of education increases, the student's need for aid rises. Correspondingly, as the amount that the student and his or her family is expected to pay decreases, the student's need for aid grows.

This formula can be used to measure the amount of aid needed for access and the amount needed for choice. For example, increasing access to postsecondary education requires that students without adequate resources get the aid they need to attend whatever is deemed to be the least expensive but adequate type of institution. Allowing choice among institutions requires providing students who choose more expensive schools with additional aid up to whatever level of cost is deemed appropriate.

As it now operates, the basic formula used in awarding student aid determines relative financial need for aid, not absolute need (as based, for example, only on income). The need for aid is relative both to the family's ability to pay (the EFC) and to the cost of the chosen institution. What is significant is that the EFC is determined through the financial aid process, while the cost of attendance depends primarily on what institution a student chooses.

ABILITY TO PAY: THE EXPECTED FAMILY CONTRIBUTION

Determining the ability of the family to pay for postsecondary education is central to the way student aid based on need is allocated. A basic premise in administering such student aid is that the family--the student and her or his parents--has the first responsibility for paying for the student's education. Before a student gets any financial aid, the family should pay what it can. As a result, procedures known as "need analysis" have been developed to determine a family's ability to pay and its expected family contribution.

The EFC is determined by what is essentially a progressive tax formula. In effect, need analysis "taxes" a family's income and assets above an amount assumed to be required for a basic standard of living. In so doing, it makes allowances for factors such as family size, unusual medical expenses, the number of family members enrolled in postsecondary institutions, and private elementary or secondary school tuition for the siblings of college students. It also takes into account the amount of federal, state, and local taxes paid.

The student's family status also influences the EFC. Students who cannot demonstrate that they are self-supporting are assumed to be financially dependent on their parents until they are 24 years of age or meet other special criteria. For dependent students, the EFC consists of both a parental contribution and a separately calculated student contribution. The minimum student contribution in 1988-1989 was $700 for freshmen and $900 for other undergraduates.

In contrast, students who are financially independent of their parents--those who have established financial responsibility for their own welfare--are not expected to have their parents pay for any of their costs, although their spouses are expected to contribute. Because independent students generally have lower income and fewer assets than do dependent students and their parents, the average EFC of independent students is considerably less than that for dependent students, and their need for aid is correspondingly greater.

Several systems exist for determining a family's ability to pay. One, called the Congressional Methodology (CM), is used in awarding Stafford Loans (formerly called Guaranteed Student Loans, or GSLs) and federal campus-based aid (which includes Supplemental Educational Opportunity Grants, Perkins Loans, and Work-Study aid). (See the glossary for a brief description of these programs.) The Congressional Methodology system first took effect for the 1988-1989 academic year.

Before the recent adoption of the CM, the Uniform Methodology (UM) need analysis was used in awarding most federal and institutional aid. The UM, which the CM largely copies, was in wide use in the fall of 1986 when the data used in this study were collected.[1]

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[1] One of the most significant changes resulting from replacing the Uniform Methodology with the Congressional Methodology was the taxing of students' actual earnings in the year before enrollment instead of their projected earnings. This change especially affected first-time (freshmen) students. The Congressional Methodology also set floors for student contributions at $700 for freshmen and $900 for other students.

Although the CM operates in a way similar to the UM, the findings reported later in this study reflect the use of the UM.[2]

Under both the CM and the UM, calculating the expected parental contribution is based on the parents' assets and income. The general logic is that, first, what is called "available income" is determined by allowing certain deductions from total income (earned and unearned). Deductions allowed include those for expenses that are required (taxes), necessary (basic living expenses), related to acquiring income (employment allowance), or unusual (medical expenses and private school tuition). Second, a portion of the parents' net assets (believed to reflect the average annual earnings on such assets, whether realized or not) is generally deemed to be available to pay for postsecondary costs. This contribution from assets is considered an "income supplement." The maximum rate applied to net worth in determining the income supplement is 12 percent (the assumed rate of return on assets) when parents also have available income from other sources. Next, available income is added to the income supplement to get the adjusted available income, and the appropriate tax rate is applied to it to calculate the EFC. (See the box for an illustrative calculation.)

The effective maximum annual direct tax rate on assets in the CM and the UM is only 5.64 percent (calculated by multiplying the maximum rate of 47 percent on available income by the 12 percent "income supplement" taken from assets) compared with a maximum rate of 47 percent on available income. But from the perspective of financing a four-year education, taxing 5.64 percent of assets in each of four years could reduce net assets by about 20 percent. Since the tax on adjusted available income also covers any earnings on remaining assets, the full tax on assets is higher than 20 percent for affected families.

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[2] Several other changes have also occurred in calculating the expected family contribution since 1986-1987. The Pell Grant need-analysis formula (discussed later in this chapter), for example, now allows the deduction of both state and federal taxes in determining discretionary income. In addition, starting in January 1987, all students getting new loans were required to undergo need analysis to get a Guaranteed Student Loan. Previously, only students from families with incomes of $30,000 or more had to show need to get GSLs. Need could be established either through the Uniform Methodology, which also assessed assets, or the so-called look-up tables, which were based on income alone.

The Calculation of the Expected Parental Contribution for a Four-Person Family Under the Uniform Methodology for 1986-1987

This illustration calculates the expected parental contribution under the rules of the Uniform Methodology for an undergraduate from a four-person family. It assumes the oldest parent is 45, employed, and receives income only from employment; that the other parent does not work; that no unusual family circumstances exist; that the standard deduction is used to calculate federal income tax liability; and that only one child is in college.

I. AVAILABLE INCOME

	Total Income		$32,000
from	Earned and unearned, Taxed and untaxed sources		
Less	**Total Allowances.**		$21,522
for	Basic living expenses	$12,540	
	Federal, state, and other taxes	$8,982	
	Employment expenses of second earner	0	
	Medical/dental expenses	0	
	Private elementary-secondary school tuition	0	
Equals	**Available Income**		$10,478

II. INCOME SUPPLEMENT FROM ASSETS

	Net Assets		$40,000
from	Cash, savings and checking accounts	$2,000	
	Home equity	$38,000	
	Business and farm equity	0	
	Other investments	0	
Less	**Asset Protection Allowance** Based on oldest parent's age and family size		$31,500
Equals	**Discretionary Net Worth**		8,500
Times	**Asset Conversion Rate of 12 percent**		
Equals	**Income Supplement**		1,020

III. ADJUSTED AVAILABLE INCOME

	Available income	$10,478	
	Plus income supplement	$1,020	
Equals	**Adjusted Available Income**		$11,498

IV. EXPECTED PARENTAL CONTRIBUTION

	With an Adjusted Available Income (AAI) of $11,498, the Contribution is Base amount	$2,578	
Plus	34 percent of AAI over $10,900	$203	
Equals			$2,781

The annual expected parental contribution under the CM and UM rises sharply with income, but is relatively less affected by net assets. Using the UM tax rates, one can illustrate this pattern by the case of a dependent undergraduate from a family of four who have no unusual expenses, who have one worker who earns all the family's income from employment, and who take a standard deduction for federal taxes (see Table 2). For example, a family earning $8,000 a year with no net assets has an expected parental contribution of zero dollars; the same family with $80,000 in net assets has an expected parental contribution of $1,280. A similar family with $80,000 in income and no net

TABLE 2. ILLUSTRATIONS OF EXPECTED PARENTAL CONTRIBUTION FOR A FOUR-PERSON FAMILY, BY FAMILY INCOME AND ASSETS FOR THE 1986-1987 ACADEMIC YEAR (In dollars)

Earned Income Before Tax	Net Assets[a] None	20,000	40,000	60,000	80,000
8,000	0	0	224	752	1,280
16,000	0	0	224	752	1,280
24,000	1,202	1,202	1,426	2,002	2,708
32,000	2,456	2,456	2,781	3,669	4,755
40,000	4,221	4,221	4,700	5,828	6,956
48,000	6,458	6,458	6,937	8,065	9,193
56,000	8,578	8,578	9,057	10,185	11,313
64,000	10,608	10,608	11,088	12,216	13,344
72,000	12,537	12,537	13,017	14,145	15,273
80,000	14,417	14,417	14,897	16,025	17,153

SOURCE: Congressional Budget Office simulation of the 1986-1987 Uniform Methodology.

NOTE: These illustrations of expected parental contribution for a dependent undergraduate are based on the Uniform Methodology (which is a system for determining parents' and students' ability to pay for postsecondary education; see text for more details) and assume the oldest parent is 45, employed, and receives income only from employment. They assume also that the other parent does not work, that no unusual family circumstances exist, that the standard deduction is used to calculate federal income tax liability, and that one undergraduate family member is in college.

a. Net assets include savings and other assets (including the value of the home) less any unpaid mortgage and other liabilities. Because the Uniform Methodology allowed a married couple with an oldest parent of 45 years to have up to $31,500 in net assets for purposes of retirement and emergency, this simulation used only net assets greater than $31,500 in calculating an income supplement or contribution from assets to be added to available income for purposes of calculating an expected parental contribution.

assets has an expected parental contribution of about $14,400. This contribution would rise by less than $3,000 (to about $17,200) if the family instead had $80,000 in net assets.

Given these contributions, students from families at the lowest income and asset levels clearly require aid to attend many postsecondary institutions; those at the upper end would have financial need only when attending high-cost institutions.

Another system for analyzing need is used in calculating the expected family contribution for awarding Pell Grants. The Pell Grant program is the federal government's largest program of grants for undergraduates and among federal student aid programs focuses the most on low-income students. The Pell Grant system for analyzing need operates like the CM and the UM, but differs in particulars. For example, tax rates on discretionary income are lower in the Pell Grant analysis of need than in the CM, starting at 11 percent for those with up to $5,000 in discretionary income and rising to 25 percent for those with over $15,000 in discretionary income. Assets are also taxed differently. Finally, some states use other systems to analyze need in allocating their own aid, including systems that calculate absolute, not relative, need.

THE STUDENT'S COST OF ATTENDANCE

In addition to the family's ability to pay, the student's budgeted cost of attendance directly affects his or her need for financial aid. Total costs of attendance include tuition and fees, room and board, and miscellaneous expenses for items such as books, supplies, and transportation to and from home.

In terms of analyzing need, the budgeted total cost of attendance for a student depends on the choices that the student and his or her family make, as well as on what expenses the financial aid administrator at the postsecondary institution deems appropriate and necessary. The student's choices include what institution to attend, which determines the level of tuition and fees, and whether to live on-campus, off-campus not with parents, or at home with parents. In contrast, the financial aid administrator establishes the budgeted cost for attending the institution in terms of room and board and miscellaneous expenses.

Because data on budgeted costs are not readily available, annual costs of attendance reported by students are used in this analysis.[3] Private four-year institutions had the highest average annual cost of attendance ($10,351), followed by proprietary institutions ($6,749), public four-year institutions ($4,491), and then public two-year institutions ($2,580) (see Table 3).[4] Among the components of total costs, tuition and fees followed the same pattern as total costs and were highest at private four-year institutions ($6,525) and lowest at public two-year institutions ($673). The other components of cost--room and board, and miscellaneous expenditures--also vary by type of institution and residency, and reflect the typical needs of students at the different types of institutions. For example, many students at proprietary and public two-year institutions live off-campus and thus have higher miscellaneous expenses because of commuting costs.

KINDS OF STUDENT FINANCIAL AID

After a student's EFC and budgeted cost of attendance have been determined, her or his need for financial aid can be calculated. Only students whose budgeted costs of attendance are greater than their EFC are considered eligible for aid based on need.

Students can get three types of aid--grants, loans, and work-study--from various sources, including federal or state governments, postsecondary institutions, and other organizations and individuals. The type of aid is important to students because grants, loans, and work-study aid differ in the degree to which they are subsidies given

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[3] On average, student-reported actual costs are about 20 percent lower than institutionally determined costs among undergraduates who received need-based aid and who were sampled in the 1987 National Postsecondary Student Aid Study.

[4] Findings on private nonprofit two-year institutions are not included in this study because of the small number of cases in the data used from the Department of Education's 1987 National Postsecondary Student Aid Study.

TABLE 3. AVERAGE ANNUAL COSTS FOR AN UNDERGRADUATE EDUCATION, BY RESIDENCY STATUS, TYPE OF POST-SECONDARY INSTITUTION, AND TYPE OF EXPENDITURES, FALL 1986 (In dollars)

Type of Institution	Tuition and Fees	Room and Board	Miscel-laneous	Total
All Residences				
Private Four-Year	6,525	2,660	1,165	10,351
Proprietary	4,378	744	1,628	6,749
Public Four-Year	1,647	1,750	1,094	4,491
Public Two-Year	673	595	1,312	2,580
On-Campus				
Private Four-Year	6,786	3,435	994	11,215
Proprietary	4,905	2,490	1,455	8,850
Public Four-Year	1,849	2,609	895	5,354
Public Two-Year	746	1,739	953	3,438
Off-Campus, Not With Parents				
Private Four-Year	6,538	2,093	1,233	9,864
Proprietary	4,693	1,398	1,259	7,350
Public Four-Year	1,661	1,820	996	4,477
Public Two-Year	716	1,623	1,377	3,716
Off-Campus, With Parents				
Private Four-Year	5,668	548	1,673	7,889
Proprietary	4,240	401	1,748	6,390
Public Four-Year	1,343	450	1,486	3,280
Public Two-Year	661	343	1,322	2,325

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Costs are for full-time, dependent undergraduates. Room and board and miscellaneous costs are actual costs as reported by the students. Tuition and fees come from institutional sources.

without obligation. Grants are pure subsidies because they do not have to be repaid or earned. Loans must be repaid, although only in part for most current types of government loans.[5] Finally, work-study aid must be earned by its recipients.

Because different sources use different rules in awarding aid, the source of aid is significant for understanding patterns of aid distribution. Over 80 percent of federal aid must be allocated on the basis of an analysis of financial need. Exceptions include veterans assistance, Supplementary Loans for Students, Parent Loans for Undergraduate Students, and a number of small, special purpose programs.

Slightly less than 80 percent of state aid for students consists of aid based on need. Institutional aid (which comes from endowments, contributions, and tuition payments of other students) also includes a significant proportion that is not based on need--an estimated 20 percent in 1983, for example. Aid that is not based on need is usually in the form of grants awarded on a range of grounds from academic achievement to athletic prowess, musical talent, citizenship skills, and so on.

STUDENT AID PACKAGES

When students get aid of more than one type or from more than one source, their total award is called an aid package. Although policymakers--in both federal and state governments and postsecondary and other institutions--determine what types and amounts of student aid are available, the financial aid administrator at each institution is responsible for assembling the different forms of aid into the final package for each student. Federal regulations also require that the financial aid administrator ensure that no federal aid awards are made that would make a student's total package exceed financial need.

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[5] For example, Stafford Loans are available to students at below-market interest rates. The federal government also pays the interest while the student is in school (and during a grace period of six months immediately following school) and guarantees the repayment of Stafford Loans in the event of death, disability, or default. On average, the subsidy has been estimated to be about 40 percent of the value of the loan for those going into repayment in fiscal year 1989. See Chapter IV for further discussion of the subsidy value of loans.

One sequence used by financial aid administrators in assembling a package is first to determine eligibility for, and the amount of, a federal Pell Grant.[6] Aid from noninstitutional sources that is not based on need, if any, may be considered--or packaged--next, followed by state grants, loans (in particular, Stafford Loans), federally funded campus-based aid, and institutional aid. Some students still have remaining need at this point, and some analysts believe that an increasing number of students are taking out private loans (which often require their parents to cosign).

In the fall of 1986 about 43 percent of aided undergraduate students received aid packages consisting of different types of aid. About 30 percent got grants and loans only; 4 percent grants and work-study only; about 1 percent loans and work-study only; and 8 percent got grants, loans, and work-study aid. In addition, about 41 percent of aided undergraduates received grants only.

Variation in aid packages will be examined in greater detail below, but it should be noted that actual aid packages differ widely among recipients having similar financial need for several reasons, including receipt of aid not based on need and because different types and sources of aid are available to students in different states and institutions. They also differ because the philosophy of student aid held by financial aid administrators and institutions varies.

One reason views differ about the appropriate allocation of aid concerns the benefits of postsecondary education. To the extent that postsecondary education is believed to benefit primarily the individual student (for example, in the form of a higher personal income), financial aid administrators would emphasize loans and work-study payments.

In contrast, to the extent that postsecondary education is seen as benefiting the public (for example, by promoting better citizenship or discoveries that help society), aid packages containing completely subsidized aid--that is, grants--would be more appropriate. If public bene-

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6. The federal government awards Pell Grants directly to students who meet eligibility criteria. Students can receive Pell Grants at any institution that meets federal requirements. Currently, more than 8,000 postsecondary institutions (including more than 4,000 proprietary institutions) meet these guidelines.

fits are believed to be realized only when certain types of students enroll in postsecondary institutions (such as the disadvantaged or the gifted), then financial aid administrators might target subsidized aid packages toward them and unsubsidized or less subsidized aid toward other students.

NET COST AND EQUAL EDUCATIONAL OPPORTUNITY

After a student's amount of aid is known, his or her final or net cost of education can be calculated, which is simply the cost of attendance less the amount of student aid received.

Net cost is the critical factor in determining whether a student actually has access and choice--and hence, equal educational opportunity--in postsecondary education. It is critical because the basic formula for analyzing need implies that a student's net cost must equal (or be less than) his or her family's expected family contribution in order to have equal educational opportunity. When net cost equals (or is less than) EFC for a particular type of institution, the objective of access has been met for that type of institution because the student can enroll by paying what the analysis of need says his or her family is able to pay. Similarly, when net cost equals (or is less than) EFC for all types of institutions, the objective of choice can be seen as being met because a student can choose any institution and still only pay the EFC.

One can argue that the standard of net cost equal to (or less than) EFC is an appropriate standard to assess how well access is being provided because it is both reasonable and practical. This standard is reasonable because the basis of analyzing need is the assumption that a student and his family should pay all they are able before getting aid for postsecondary education. If students and families with low income pay all they are able to for postsecondary education and then get all the student aid needed to meet total costs at some specified type of postsecondary institution, then the students can enroll--and hence have access--and their net cost will equal (or be less than) the EFC. The standard of net cost equal to (or less than) EFC can also be practically used to measure access. Data on net cost relative to EFC for the schools in which students have enrolled are available and are presented in Chapter V.

For evaluating choice, however, the standard of net cost equal to (or less than) EFC for all types of institutions is not suitable in itself. The problem with using this standard in assessing choice is that it requires that there be no unmet financial need regardless of the institution chosen. Unmet need will generally exist because if it did not students would have strong incentives to choose the most costly institution that would admit them. After all, it would not cost them any more to do so because they would be required only to pay their EFC. Consequently, institutions would have strong incentives to increase their prices knowing that students would only be required to pay their EFC regardless of what institutions charged, with the providers of student aid paying the rest.

The almost certain existence of continuing unmet need raises a question--namely, how much greater can the net cost of attending higher-cost institutions be than EFC and still be reasonable? On this, opinions will probably differ, and what is considered reasonable by some may not be by others. Data on net cost relative to EFC for students who have chosen to attend more costly institutions are presented in Chapter V, and the significance of the findings are considered in Chapter VI.

A directly related issue is what type of institution should be considered the basic institution to which students should be guaranteed access regardless of their ability to pay, and hence what types of institutions will be considered institutions of choice.[7] Two types of schools have been discussed with respect to access, the public two-year institution and the public four-year institution.

Many see the public two-year school, widely known as the community college, as the basic postsecondary institution that any academically qualified student should be able to attend regardless of his or her ability to pay. States and communities have put substantial resources into building such institutions over the past decade or so and have deliberately kept tuition low to ensure access. Such institutions are well-suited to be the basic school of access because they provide a wide range of academic and vocational programs leading to degrees and certificates as well as adult and continuing education courses. Strictly speaking, financial aid is awarded on the basis of cost of attendance, not type of institution attended. Thus, to speak of a public two-year institution as the type of school to which access should be guaranteed means that financial aid should be available to allow any student to attend an institution costing what, for example, the average public two-year institution costs.

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[7] This discussion does not address the issue of what academic standards are appropriate to set before admitting a student to an institution.

In contrast, some argue that public four-year institutions should be the type of school to which students should be guaranteed access. Their perspective holds that postsecondary education should be seen as primarily academic and that a four-year degree should be assumed to be the standard goal of students. As a result, academically qualified students should be guaranteed access to them, regardless of ability to pay.

Selecting either the public two-year or public four-year institution as the basic school of access has direct implications for what then become institutions of choice. When using the public two-year institution, institutions of choice become public four-year, proprietary, and private four-year institutions whose costs exceed those at public two-year schools. These are the types of institutions for which the net costs of aided students can be expected to exceed EFC. In the case of accepting the public four-year institution as the access school, proprietary and private four-year schools whose costs exceed those at public four-year institutions remain as schools of choice.

THE STUDENT AID PARTNERSHIP

Because the financial need of all students is not met, the net cost students face cannot be known in advance. Thus, the issue of who receives the available aid in what amounts, and hence faces what net costs, becomes relevant. In this context, it is useful to examine the other factors besides the current formula for determining need that affect how the student aid system works. These factors partially determine the distributions of student aid and of students' net costs.

A useful way to think about the student aid system is in terms of a partnership. The major partners are the federal government, state governments, postsecondary institutions, and charitable organizations and individuals. These partners, in conjunction with the students who choose whether and where to enroll, determine the distribution of student aid.

Because the federal government provides the most aid, it is the dominant partner.[8] One way this dominance is expressed is through setting the basic rules to be used in awarding aid whenever a student gets federal aid--namely, the basic formula for analyzing need that is now embodied in the Congressional Methodology. While the CM largely shapes how need is defined, the other partners have important roles in the system both in determining the amount of aid they provide and the rules they set for awarding it.

States, for example, provided an estimated 6 percent of aid for undergraduate and graduate students in the 1989-1990 period, but the amounts and types of aid they provide vary considerably among states. Some states make special efforts to provide grant aid to reduce the tuition gap between public and private postsecondary institutions, some have loan programs, and some use unique methods in determining financial need.

Postsecondary institutions also vary substantially in the amounts and types of student aid they award and in the rules they use for awarding it. For example, the more costly private institutions tend to award the most grant aid. Institutional aid is usually awarded on the basis of financial need, but a significant fraction is not based on need. For example, academic achievement is the basis for awarding much aid not based on need.

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[8] Recall that this analysis concerns only student aid. States provide the most support because of their substantial tuition subsidies, as discussed in Chapter I. Charitable contributions and funds from other sources also allow private institutions to provide substantial tuition subsidies.

Charitable organizations and individuals add additional diversity to the system because of the variability both in the amounts they give over time and in the rules they specify for its award. Their aid can be made available directly to individuals or through institutions. To institutions, it can be given to use in unrestricted form--meaning that the institution can award it however it pleases--or in restricted form, perhaps only for students in given majors.

The diversity of the student aid system gives rise to considerable variation in the amounts and types of aid that are available for students at specific institutions as well as to possible inconsistencies in the rules and procedures required by the various sources of aid. As a result, issues of fairness and appropriateness in awards can arise.

The key actors in making the system function and in ensuring the reasonableness and equity of aid awards are the financial aid administrators (FAAs) at the postsecondary institutions. As the system is currently structured, FAAs make significant choices in awarding and packaging aid. Although determining a student's EFC must now be made in conformity with federal standards when the student gets federal aid, FAAs can exercise discretion for some types of federal aid by, among other things, adjusting the EFC to take into account what they identify as individual special circumstances. For the 1988-1989 academic year, FAA discretion resulted, on average, in lower EFCs for Pell Grant recipients. The additional cost of the Pell Grant Program was about $33 million. Although FAA discretion was first extended to the Pell Grant Program in the 1988-1989 academic year, it has since been restricted through the Congressional appropriations process. FAAs can also alter EFCs by changing the rules for analyzing need in the Congressional Methodology, modifying individual data elements, or setting the final amount directly. Such discretion can result in either higher or lower EFCs.

In addition, FAAs set students' budgeted costs. Some FAAs do this by surveying students to determine what their actual expenditures are, but many rely on estimates. Accurately estimating students' costs is difficult because the circumstances of students vary significantly: for example, there are those who live on-campus, off-campus, or at home; are married or not; and have dependents or not. When FAAs set budgeted costs above actual costs, they increase the student's measured need for aid. When they set them below actual costs, they reduce the measured need for aid, but at the cost of potentially reducing the standard of living for students and possibly their families.

Finally, FAAs can exercise discretion in packaging federal campus-based aid and institutional aid, including need-based and non-need-based aid. Awarding Supplemental Educational Opportunity Grants is, however, restricted by law to favor students with "exceptional need" and who also receive Pell Grants. In addition, the federal government requires that aid not based on need must be taken into account when awarding federal aid based on need (except for Pell Grants). Moreover, normally, institutions develop written policies--also known as the institution's financial aid packaging policy--on how aid will be awarded, but FAAs still use discretion when they determine that unusual circumstances exist.

The diversity among the partners in the financial aid system--in terms of the amounts and types of aid made available under rules that may be inconsistent--means that significant uncertainty exists in terms of who gets aid, how much they receive, what types of aid they get, and what net cost students must pay.[9]

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[9] Because of the way student aid is awarded, each student who receives aid has an individually determined expected net cost of postsecondary education. Only students who do not receive student aid are expected to pay the gross price (full tuition and fees, room and board, and miscellaneous expenses). Many of these students have no financial need as defined by the current formula used in analysis of need and do not qualify for aid not based on need.

CHAPTER III

WHO GETS STUDENT AID?

A first step in assessing how well student aid promotes the goal of equal educational opportunity is to see which students receive aid. Although no way exists to link the achievement of equal educational opportunity directly to who gets aid, successful pursuit of access calls for financial aid to be awarded inversely to the ability to pay. Thus, students from lower-income families should be more likely to get student aid, other things being equal (such as possession of assets, family size, and medical expenses). Successful pursuit of choice suggests that aid should increase as costs of attendance rise and, thus, students attending higher-cost institutions should be more likely to be aided--again, other things being the same.

THE NPSAS DATA

The data used in this analysis are from the 1987 National Postsecondary Student Aid Study (NPSAS) conducted by the Department of Education. These data are used for several reasons. First, they are the most recent data available, covering the 1986-1987 academic year. Second, the 1987 NPSAS is the most comprehensive survey of postsecondary students and institutions ever conducted. A major advantage is that it includes students at proprietary institutions. Third, the quality of the data from the 1987 NPSAS is significantly better than data from other surveys. The NPSAS collected data from institutions, students, and parents, allowing for verification and selected comparisons among the different types of respondents. Past surveys have often only collected data from students or from institutions. Finally, while the data collected in the 1987 NPSAS were only on students enrolled in the fall of 1986, and hence are not representative of all students enrolled over the 1986-1987 academic year, full-year financial data were collected on those students. (See Appendix A for a description of the data.)

For several reasons, the student population used in this study is confined to full-time, dependent undergraduates who were enrolled for the entire academic term or year. First, although the numbers of independent and part-time students have grown substantially in recent years, dependent undergraduates still constituted 63 percent of all undergraduates in the fall of 1986 and more than 67 percent of them attended school full-time (see Table 4). Second, the financial situations of independent undergraduates and of part-time undergraduates are generally quite different from those of dependent, full-time undergraduates and vary considerably within each group. Because of this,

TABLE 4. UNDERGRADUATE ENROLLMENT, BY DEPENDENCY STATUS, ENROLLMENT CATEGORY, AND TYPE OF POSTSECONDARY INSTITUTION, FALL 1986
(In thousands of students)

	All Schools	Private Four-Year	Proprietary	Public Four-Year	Public Two-Year
		All Students			
Total	11,168	1,869	600	4,242	4,307
Full-Time	6,056	1,380	319	2,955	1,312
Percentage of Total	54.2	73.9	53.2	69.7	30.5
		Dependent Students			
Total	7,035	1,414	277	3,108	2,135
Full-Time	4,738	1,198	168	2,425	878
Percentge of Total	67.3	84.7	60.6	78.0	41.1
		Independent Students			
Total	4,133	455	323	1,134	2,172
Full-Time	1,319	182	151	529	434
Percentage of Total	31.9	40.0	46.8	46.7	20.0

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Details may not add to totals because students at private two-year schools and those for whom the type of school is not reported are not shown separately. Full-time students are defined here as those who also attended school for the full year.

the results of need analysis for independent and part-time students can be difficult to compare with those for full-time, dependent ones, and this report would be unduly complex if they were included.

The historical context of the NPSAS data on undergraduates must also be noted. Because the data cover students who were in postsecondary institutions during the 1986-1987 academic year, the student aid awards were governed by the laws and regulations in effect at that time. Besides the Pell Grant formula, the Uniform Methodology was then the most widely used system of need analysis for allocating federal aid. The Congress amended the Higher Education Act (HEA) in 1986, making a number of significant changes that went into effect in later years. These changes included altering the formula for analyzing need in the Pell Grant Program, as well as mandating the use of the Congressional Methodology for analyzing need in awarding other federal aid beginning in the 1988-1989 academic year.

The CM generally requires larger financial contributions from dependent students and their families than the UM. The CM also liberalized the EFC for independent students with dependent children by treating them more like the parents of dependent students. In addition, the 1986 HEA amendments restricted Stafford Loans (then called Guaranteed Student Loans, or GSLs) only to students who could demonstrate financial need. Previously, only those with family incomes above $30,000 had to show need in order to obtain a GSL.

Although the HEA amendments and subsequent legislative alterations changed somewhat who gets what amount and type of student aid, the continuing use of systems for analyzing need that are similar to those used in 1986-1987 suggests that the general patterns of receiving aid probably remain similar to those in the NPSAS.

RECEIPT OF STUDENT AID BY SOURCE

The complexity of the student aid partnership--which includes federal, state, institutional, and other sources of aid as well as students and their families--raises concern about who gets aid from what source or sources. This section addresses this issue by analyzing who receives any aid as well as who receives aid from the three main sources. Some students receive aid from more than one source, so the percentage getting some aid will be less than the sum of the percentages who receive aid from each source.

In examining the question of who gets aid, this study presents data on the proportions of students receiving aid in relation to their family income and cost of attendance (as measured by type of institution). Because the proportions of students getting aid vary simultaneously with income and cost of attendance, the key results are shown graphically. In general, the ability to pay as measured by family income is displayed horizontally in the graph, while the cost of attendance as measured by type of institution is presented diagonally.

Within each category of cost of attendance (that is, for each type of institution), the proportion of students getting aid increases as income declines, as the goal of access would suggest (see Figure 2).[1] And at every income level, the proportion of students getting aid increases with the increasing costs associated with the different types of institutions, as the goal of choice would imply.[2] Students with the lowest family income attending the highest-cost institutions (private four-year schools) were the group most likely to receive aid (98 percent). Those with the highest family income and attending the lowest-cost institutions (public two-year schools) were least likely to get aid (18 percent). Overall, about 57 percent of these full-time, dependent undergraduates received student aid in fall 1986 (see Table B-2 in Appendix B).

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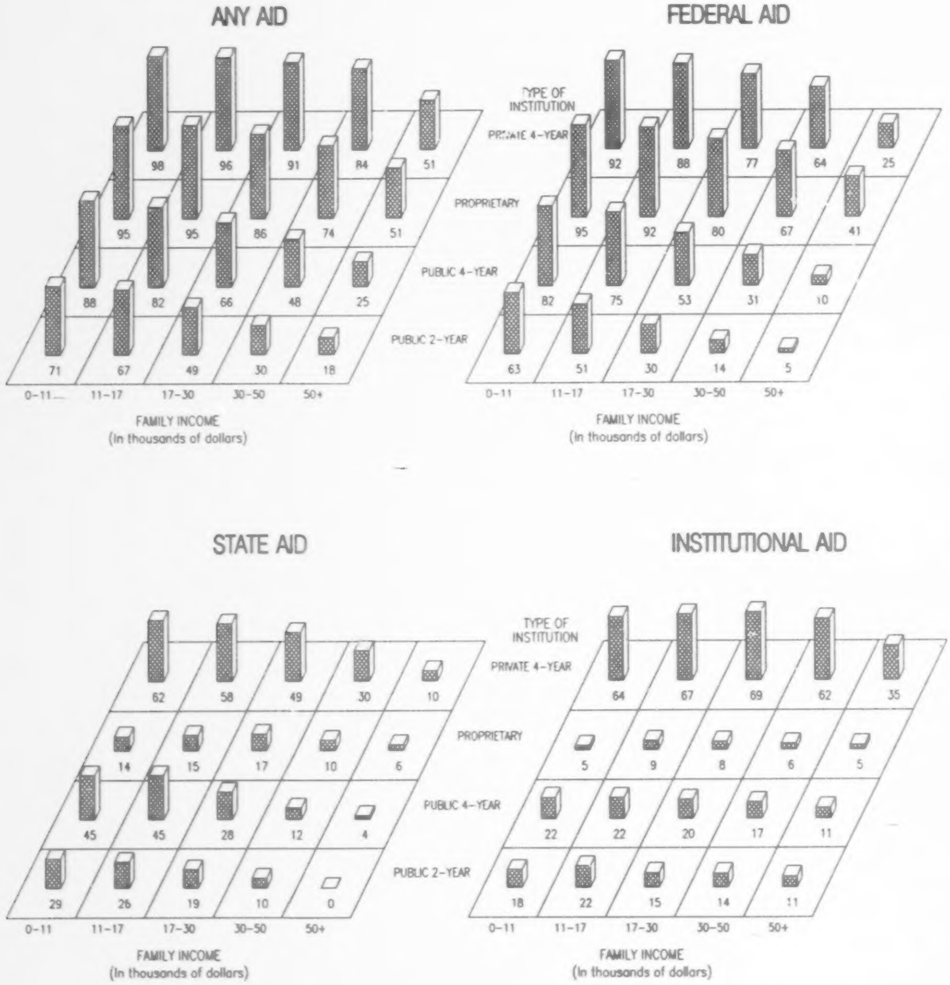
1. In the figures that follow, caution should be exercised in interpreting cells with small numbers, especially those involving students from families with high income at proprietary and public two-year institutions. As the text tries to suggest, the importance of the findings in this study lies in the patterns of aid receipt and amount of aid, not the specific estimates reported in any particular cell.

2. Recall that Table 3 shows that cost of attendance is closely related to type of institution. The order of increasing costs of attendance goes from public two-year institutions through public four-year and proprietary institutions to private four-year institutions. Total aid includes amounts from all sources, including employers as well as the federal and state governments and postsecondary institutions.

Figure 2.
Percentage of Students Receiving Financial Aid from Different Sources, by Family Income and Type of Postsecondary Institution, Fall 1986



SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Calculations are based on full-time, dependent undergraduates. "Any Aid" includes aid from all sources and all types, not just those sources shown separately.

Awarding aid to foster both the goals of access and choice, however, results in what some may consider to be inequities. For example, some might consider low-income students who attended low-cost schools as the most deserving of aid. Yet, such students were less likely to receive aid than were some groups of higher-income students attending higher-cost schools. About 71 percent of students from families with less than $11,000 in income who attended public two-year institutions received aid compared with 84 percent of students from families with $30,000-$50,000 in income who attended private four-year institutions.

Others would counter that the high proportion of students receiving aid in the latter group merely reflect the system's other objective--promoting choice. As shown in the next chapter, much of the aid going to middle-income students choosing private four-year institutions is in fact institutional aid, which is generally not considered an issue for public policy.

Which students received aid from federal, state, or institutional sources contrasted with who got any student aid. Among the undergraduates examined in this study, 41 percent got federal aid, 21 percent got state aid, and 26 percent got institutional aid (see Table B-2 in Appendix B). One notable difference between who got aid from any source and who got federal aid is that the percentage of students awarded federal aid generally increased more rapidly both as income declined and as costs of attendance increased. This pattern may have occurred because federal aid is probably more likely to be based on need than aid from other sources. Another difference is that, at every income level and overall, students from proprietary schools were more likely to receive federal aid than were students at more expensive, private four-year institutions. As will be discussed below, this result probably occurs because students at proprietary schools were less likely to get state and institutional aid. Overall, about 77 percent of proprietary students received federal aid compared with 55 percent of students at private four-year schools, 37 percent of students at public four-year schools, and 27 percent of students at public two-year schools.

The broad pattern of receiving state aid was similar to that of all aid and of federal aid, with two major exceptions. First, as family income decreased and as costs of attendance increased, the shares of students who got state aid did not in general increase as rapidly as in the case of federal aid. This difference probably happened because state aid is generally awarded after (at least some) federal aid, and hence goes toward meeting residual need not met by federal aid. Furthermore, slightly less than 80 percent of state aid is based on an analysis of need. Second, relatively few students at proprietary schools received state aid because they were not eligible for such aid in many states. Overall, about 13 percent of these students receive state financial aid compared with 30 percent of students at private four-year schools, 18 percent of students at public four-year schools, and 15 percent of students at public two-year schools.

The pattern of receiving institutional aid was quite different from that of either federal or state aid. In particular, the portions of students receiving institutional aid were not closely related to family income. Overall, between 28 percent and 30 percent of students at every family income level got some institutional aid except for those with more than $50,000 in family income, of whom 19 percent received this type of aid. However, except for students at proprietary schools, the portion of students who got institutional aid rose with cost of attendance--from 15 percent among those attending public two-year institutions to 17 percent at public four-year schools and 54 percent at private four-year institutions.

At proprietary schools, relatively few students (about 7 percent) received institutional aid. These institutions are designed to generate profits, and some of the major organizations that accredit proprietary schools place restrictions on how these schools may fund and award institutional aid. These rules generally limit the extent to which the awarding of institutional aid can be used, in effect, to cut prices (or tuition). Thus, they restrict competition among proprietary schools.

One result of the pattern of institutional aid was a weakening of the overall relationship between who received any student aid and relative need. In part, this weakening resulted because institutional aid was less likely to be based on relative need (that is, more of it was probably based on merit) than were federal or state aid. Institutional aid is also the most discretionary form of aid. Since many students have remaining financial need after counting federal and state aid, institutions have considerable discretion in making awards even when need is the basis.

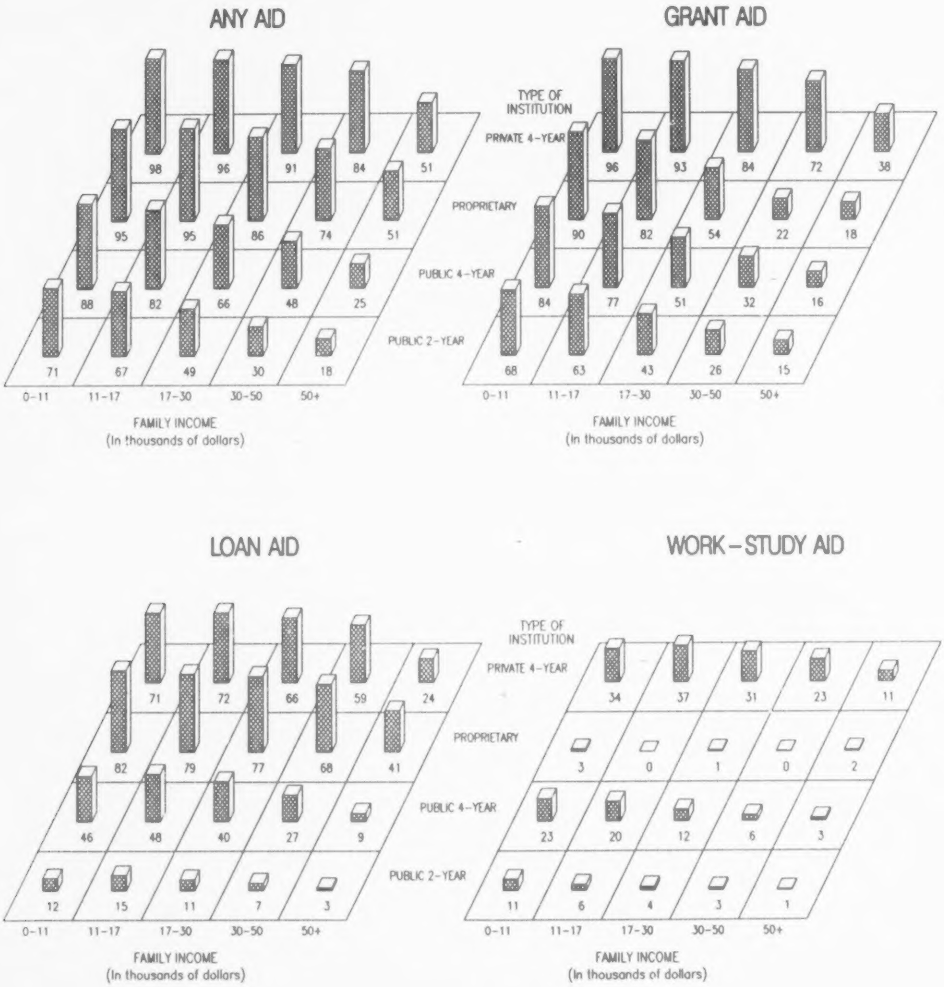
RECEIPT OF DIFFERENT TYPES OF STUDENT AID

In awarding student aid, like amounts of grants, loans, and work-study aid are considered of equal value in meeting financial need. But these types of aid vary in value to the student. Therefore, which students receive which types of student aid can be relevant to the goal of equal educational opportunity. Grants are most desirable because they reduce the net cost by the amount of the grant; loans address immediate financial need, but do have to be repaid at least in part; work-study aid must be earned, generally while the student is also enrolled in school, thus imposing additional effort.

In general, the proportion of students who received grant aid increased as family income decreased and as cost of attendance increased (see Figure 3). This pattern was similar to the receipt of any aid except that the portion of students getting grants increased somewhat more quickly as family income declined than did the percentage receiving any aid. The closer relationship of family income to receipt of grants than to receipt of other aid suggests that grants were relatively more important to the goal of access--ensuring that students have enough resources to enroll at some institution--than was other aid. Overall, 46 percent of the students in the NPSAS sample of full-time, dependent undergraduates received grant aid (see Table B-2 in Appendix B).

Receipt of loans contrasted with receipt of grants in several ways. Overall, a smaller proportion of students got loans (31 percent) than grants (46 percent), although some students received both. Moreover, a smaller portion of students received loans than grants at every category of family income and cost of attendance (type of institution), except for proprietary students whose family income was over $17,000. In addition, students were relatively more likely to receive loans as

Figure 3.
Percentage of Students Receiving Financial Aid of Different Types, by Family Income and Type of Postsecondary Institution, Fall 1986



SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Calculations are based on full-time, dependent undergraduates. "Any Aid" includes aid from all sources and of all types, not just those sources shown separately.

cost of attendance increased than as family income declined. This pattern suggests that loans were relatively more important in expanding choice among institutions than in ensuring access to postsecondary education. The students most likely to have received loans attended proprietary schools, both overall and at every level of family income. Overall, about 72 percent of proprietary school students got loans compared with 49 percent of students at private four-year schools, 28 percent of students at public four-year schools, and 9 percent of students at public two-year schools.

The pattern of receiving work-study aid was also unique because proprietary schools received little work-study aid to allocate. Otherwise, the proportion of students receiving work-study aid varied with relative need as it did with grants. That is, the share of students getting work-study aid increased as family income decreased and as the cost of attendance increased, except for students at proprietary schools. Grants were not necessarily substitutes for work-study because some students got both types of aid. Overall, about 10 percent of full-time, dependent undergraduates received work-study aid.

RECEIPT OF STUDENT AID PACKAGES

Another way to look at who receives student aid is in terms of student aid packages--in particular, who gets aid from what number of different sources (federal, state, and institutional) and of what number of different types (grant, loan, and work-study). This formulation of the question addresses the issue of the complexity of the packages that FAAs assemble to meet the financial need of students. Overall, the portion of these recipients who received aid from two or more sources was 53 percent, while the portion who received aid of two or more types was 47 percent.

Except among recipients at proprietary schools, student aid packages became more complex as relative need increased (see Tables 5 and 6). That is, recipients got aid from more sources and of more types as family income decreased and as the cost of attendance increased. Recipients most likely to have the most complex aid packages in terms of

TABLE 5. DISTRIBUTION OF FULL-TIME UNDERGRADUATES RECEIVING AID, BY NUMBER OF SOURCES, TYPE OF POSTSECONDARY INSTITUTION, AND FAMILY INCOME, FALL 1986 (In percent)

Number of Sources of Aid by Type of Institution	Family Income (Dollars) 0-11,000	11,000-17,000	17,000-30,000	30,000-50,000	More Than 50,000	All
Total						
One Source	38	35	41	51	68	47
Two Sources	42	42	37	33	26	35
Three or More	21	23	21	16	6	18
Private Four-Year						
One Source	12	15	18	29	56	31
Two Sources	41	38	37	41	33	38
Three or More	46	47	45	30	11	32
Proprietary						
One Source	80	74	74	84	94	79
Two Sources	17	24	23	15	6	19
Three or More	3	1	2	1	0	2
Public Four-Year						
One Source	39	33	48	63	82	53
Two Sources	46	48	39	29	17	35
Three or More	16	19	14	9	1	12
Public Two-Year						
One Source	46	51	55	70	78	57
Two Sources	44	39	39	26	22	36
Three or More	11	10	5	3	0	7

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Sources of aid are federal, state, institutional, and other. Figures are based on full-time, dependent undergraduate aid recipients who get federal, state, or institutional aid. Totals may not add to 100 percent because of rounding.

TABLE 6. DISTRIBUTION OF FULL-TIME UNDERGRADUATES RECEIVING AID, BY NUMBER OF TYPES OF AID, TYPE OF POSTSECONDARY INSTITUTION, AND FAMILY INCOME, FALL 1986 (In percent)

Number of Types of Aid by Type of Institution	Family Income (Dollars) 0-11,000	11,000-17,000	17,000-30,000	30,000-50,000	More Than 50,000	All
Total						
One Type	42	42	48	57	74	53
Two Types	43	43	39	32	20	35
Three or More	15	16	14	11	6	12
Private Four-Year						
One Type	23	22	25	36	63	38
Two Types	48	45	48	43	28	41
Three or More	30	32	27	22	9	21
Proprietary						
One Type	18	31	47	78	78	47
Two Types	80	69	53	22	22	52
Three or More	2	0	0	0	0	1
Public Four-Year						
One Type	41	39	52	69	87	58
Two Types	44	45	37	26	11	32
Three or More	15	16	11	5	2	9
Public Two-Year						
One Type	74	74	80	84	90	79
Two Types	22	26	20	14	10	20
Three or More	4	0	0	2	0	1

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Types of aid are grant, loan, work-study, and other (for example, tuition payments by employers). Figures are based on full-time, dependent undergraduate aid recipients who get a grant, loan, or work-study aid. Totals may not add to 100 percent because of rounding.

the number of sources or types of aid were those with the lowest family income at the most costly institutions. Those most likely to receive the simplest aid package had the highest family incomes at the institutions with the lowest cost. As these findings reflect, a student's financial need was more likely to exceed the amount of aid available from any one source or of any one type as family income decreased or cost of attendance increased.

Proprietary students, in contrast, were much more likely to get aid from only one source (the federal government) and of two types (grant and loan) than would otherwise be expected on the basis of their family income and cost of attendance. The pattern for proprietary schools reflects the results discussed above--namely, that relatively few proprietary students got aid from states or institutions or received work-study aid.

CHAPTER IV

HOW MUCH AID DO UNDERGRADUATES GET?

Along with who receives aid, the amounts aided students receive are central to the concern for equal educational opportunity. While no absolute amounts of aid can be linked to equal educational opportunity without a consensus about what access and choice mean in terms of enrollment in given types of institutions, promoting equal educational opportunity implies that aid recipients should get increasing amounts of financial aid as their ability to pay declines and as costs of attendance rise. This chapter focuses on the amounts of aid received by aided students in relation to their family income and cost of attendance. Because aided students do not usually get aid from all sources, the average amount of total aid is less than the sum of the separate average amounts.

AMOUNTS OF STUDENT AID FROM DIFFERENT SOURCES

The average amount of student aid received from all sources by full-time, dependent undergraduates in the fall of 1986 increased as family income decreased and as cost of attendance increased (see Figure 4).[1] This pattern suggests that financial aid administrators generally used relative financial need in packaging aid. The overall average amount of aid was about $3,600, ranging from an average of about $7,600 for aided students from families with the lowest incomes at the most costly institutions to an average of almost $1,000 for recipients from families with the highest incomes attending the least costly schools (see Table B-3 in Appendix B).[2]

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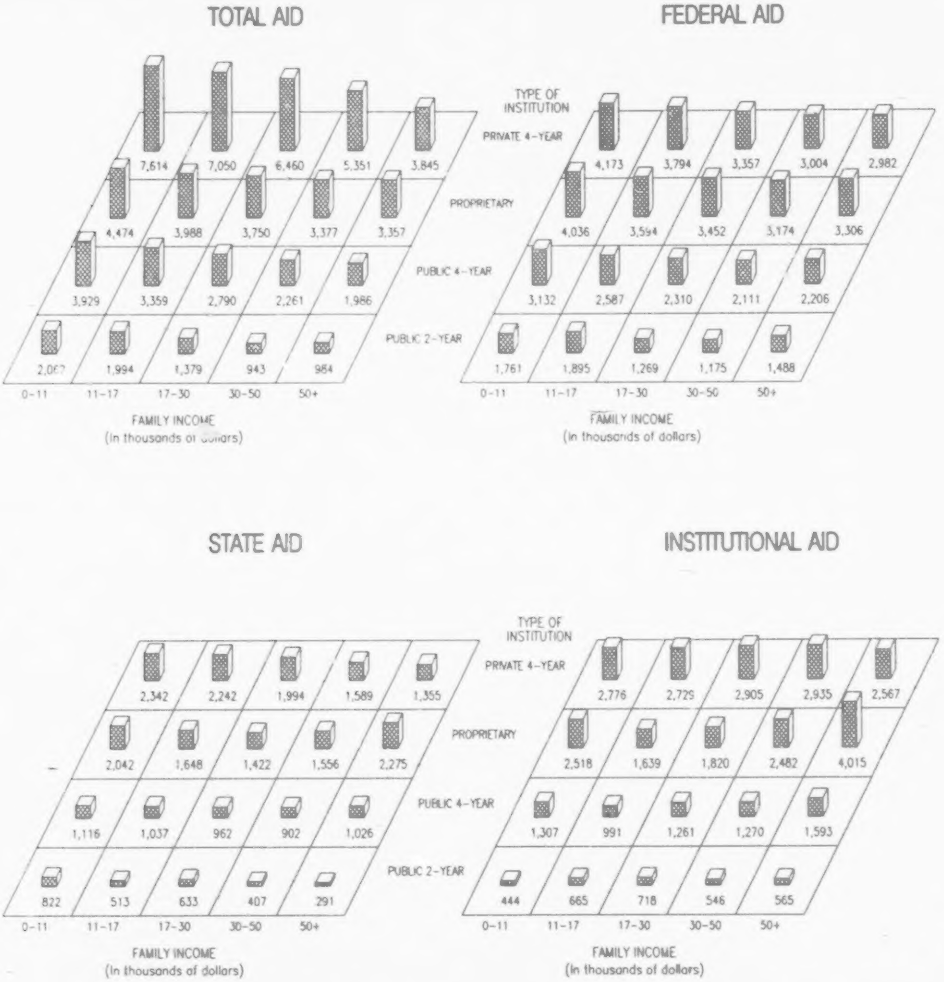
[1] Students who received no aid are excluded from these averages. Moreover, only students who received aid from a particular source or of a particular type are included in the figures for that particular source or type of aid.

[2] The dollar amounts and other numbers presented in the text and in the cells of the figures are averages. Variation around these averages exists in each cell.

Figure 4.
Average Amount of Financial Aid from Different Sources Awarded to Undergraduate Recipients, by Family Income and Type of Postsecondary Institution, Fall 1986
(In dollars per recipient)



SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Amounts by source of aid are for full-time, dependent undergraduates who receive aid from that source. "Total Aid" includes all types of aid from all sources, not just those sources shown separately.

The average amounts of aid from all sources varied less by family income for recipients at proprietary schools than among recipients at other types of institutions. For example, average total aid received by aided students from the lowest-income families exceeded the average aid received by those from the highest-income families by almost 35 percent at proprietary schools, compared with almost 100 percent at private four-year and public four-year institutions, and 110 percent at public two-year schools. One reason for this difference stems from the pattern of federal aid receipt.

Overall, federal aid--including grants, loans, and work-study--appears to have been allocated on the basis of relative need. Federal aid recipients, who may or may not have received any other aid, got an average federal award of about $2,700, ranging from an average of about $4,200 for students from the lowest-income families at the most costly institutions to an average of about $1,500 for the small number of recipients from families with highest income at the least costly institutions.

Recipients of federal aid at proprietary schools, however, again show a special pattern. In income categories above $17,000, recipients at proprietary schools got more federal aid on average than similar recipients at other institutions. Among recipients, the average amount of federal aid was $3,534 at proprietary schools compared with $1,545 at public two-year schools, $2,427 at public four-year schools, and $3,307 at private four-year schools. Recipients of aid at proprietary schools probably received more federal aid (in particular, they took out larger amounts of loans) because aid from state and institutional sources was available to relatively few of them to meet their financial need, as discussed above.

The general pattern of average state aid also suggests that relative need was used in awards of aid. State aid recipients, who may or may not have received aid from other sources, got an average state award of almost $1,300, ranging from an average of almost $2,350 for those in the lowest-income category attending the most costly schools to about $300 for those with the highest family income at the least costly institutions. Compared with federal aid, average amounts of state aid tended to increase relatively more as cost of attendance increased.

This trend may exist because a portion of state aid was expressly targeted on students attending private institutions in their state in order to reduce the "tuition gap" between the state's public and private post-secondary institutions.

In sharp contrast to federal and state aid, the average institutional award showed little relationship with family income, although it did increase with cost of attendance. Furthermore, recipients of institutional aid in the lowest-income group received less of such aid than recipients of such aid in the highest-income category at all levels of tuition and fees except the highest. Overall, the average amount of institutional aid received by students, who may or may not have gotten aid from other sources, was about $2,060. Because substantial average amounts of institutional aid went to higher-income recipients, institutional aid appears to foster choice more than access.

Finally, total aid amounts were much more sensitive to family income and cost of attendance than was aid from any one source. This greater sensitivity of total aid probably reflected the efforts of financial aid administrators to package aid for recipients who got aid from multiple sources in a way that promotes equal educational opportunity.

AMOUNTS OF STUDENT AID OF DIFFERENT TYPES

This section examines and compares the average amounts of aid in the form of grants, loans, and work-study aid that recipients of each of those types of aid got in relation to family income and cost of attendance.[3] Because they do not have to be repaid (like loans) or earned (like work-study aid), grants are the most desirable form of aid. One basic finding is that the average grant amount ($2,577) exceeded the average loan amount ($2,341) and the average amount of work-study aid ($1,063).

The general pattern of amounts of grants reflected relative financial need--grant recipients from families with the lowest income attending the most costly schools received an average award of nearly

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[3] Recipients of grants, loans, or work-study aid may or may not have received other types of aid.

$5,500, and grant recipients from families with incomes of more than $50,000 attending the least costly schools received about $930 in grants (see Figure 5).

Grant recipients at proprietary schools, however, were different in several ways. First, students at proprietary schools from families with less than $17,000 in income who received aid got less grant aid than similar students at public four-year institutions, even though the cost of attendance is higher at proprietary schools than at public four-year institutions. Second, the average grant amounts to recipients at proprietary schools varied less by family income than they did among recipients at other types of schools.

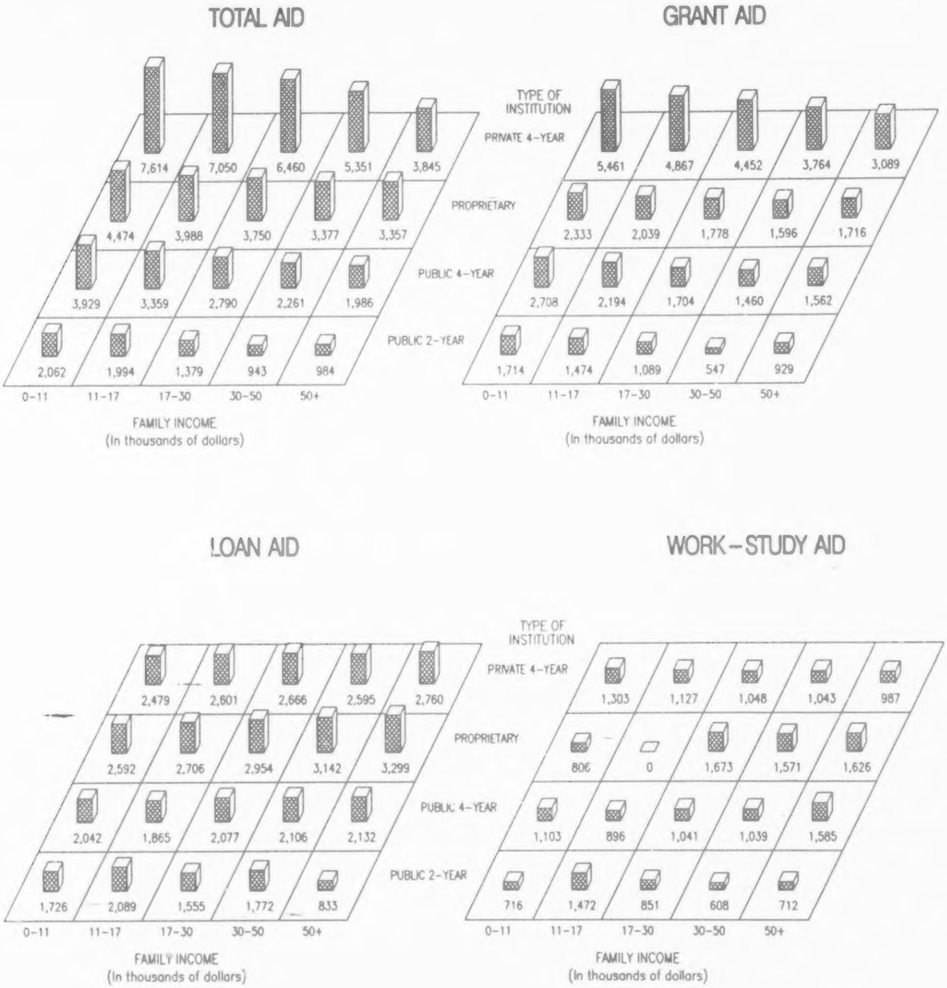
The explanation for these differences is probably, again, that students at proprietary schools were not eligible for state aid in many states and that proprietary schools awarded little institutional grant aid. As a result, financial aid administrators at proprietary schools had less grant aid--generally only federal grants--to package for students from families with the lowest income.

In contrast to grants, average loan amounts varied relatively little by family income, although loan amounts generally increased with the cost of attendance. At all but the schools with the lowest tuition, higher-income borrowers did have slightly larger loans, probably because they received less aid as grants.

Also noteworthy is the pattern of loan amounts at proprietary schools. Not only were students at proprietary schools more likely to borrow, they also had larger loans than did borrowers at other institutions. The average amount of loan aid at proprietary schools was $2,907, compared with $2,636 at private four-year schools, $2,057 at public four-year schools, and $1,695 at public two-year schools.

Average work-study amounts had a more irregular pattern that is hard to explain. The pattern may have resulted because work-study aid was among the last form of aid awarded and some consider it the least desirable form of aid, as it requires working while attending

Figure 5.
Average Amount of Financial Aid Awarded to Undergraduate Recipients, by Type of Aid, Family Income, and Type of Postsecondary Institution, Fall 1986 (In dollars per recipient)



TOTAL AID

GRANT AID

LOAN AID

WORK-STUDY AID

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Amounts by type of aid are for full-time, undergraduates who receive that type of aid. "Total Aid" includes all types of aid from all sources, not just those types shown separately.

school. Work-study amounts tended to increase slightly with cost of attendance, except at proprietary schools where little work-study aid was available. Although the relatively small number of cases requires caution in interpreting patterns, the relationship of work-study amounts with family income seems to depend on type of institution. For example, work-study aid increased as family income decreased at private four-year institutions, while at public four-year institutions it had basically no relationship, although it was highest there for recipients from families with the highest income.

As noted earlier with respect to sources of student aid, the overall sensitivity of average total aid to relative need also resulted from the way aid packages were assembled by financial aid administrators in accordance with the current basic formula for determining need. Examining type of aid separately shows that only grant amounts generally varied directly with both family income and cost of attendance.

COMPOSITION OF STUDENT AID PACKAGES

Another way to analyze student aid receipt is to look at the shares of total aid coming from different sources and made up of different types. Among these full-time, dependent, undergraduate aid recipients, federal sources provided 56 percent of all student aid, state sources provide 15 percent, and institutional sources provide 29 percent (see Table B-3 in Appendix B). As family income decreased, the share of aid from federal sources increased, while that from institutional sources decreased (see Table 7). With respect to type of institution, the portion of aid from federal sources was highest at proprietary schools and lowest at private four-year institutions. In contrast, the institutional aid share was highest at private four-year institutions. The portion of aid provided by the states filled in with no regular pattern.

Overall, aid recipients at proprietary schools got 88 percent of their aid from federal sources, compared with 45 percent at private four-year schools, 61 percent at public four-year schools, and 52 percent at public two-year schools. Aid recipients at proprietary schools also got 6 percent of their aid from state sources, compared with 15

TABLE 7. DISTRIBUTION OF FINANCIAL AID AMONG AID RECIPIENTS, BY SOURCE OF AID, TYPE OF POSTSECONDARY INSTITUTION, AND FAMILY INCOME (In percent)

Source of Aid by Type of Institution	Family Income (Dollars) 0-11,000	11,000-17,000	17,000-30,000	30,000-50,000	More Than 50,000	All
Total						
Federal	72	65	59	52	38	56
State	16	18	18	14	11	15
Institutional	12	16	24	34	51	29
Private Four-Year						
Federal	56	54	47	46	36	45
State	22	21	19	13	10	15
Institutional	22	26	34	41	53	40
Proprietary						
Federal	93	89	86	88	82	88
State	5	6	7	5	8	6
Institutional	2	5	7	7	10	6
Public Four-Year						
Federal	75	69	65	58	40	61
State	16	20	17	15	14	16
Institutional	9	10	18	28	47	22
Public Two-Year						
Federal	73	62	49	32	32	52
State	14	14	21	22	a	17
Institutional	13	24	30	47	68	31

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Figures are based on full-time, dependent undergraduate aid recipients. Figures may not add to 100 percent because of aid from other sources or of other types.

a. Less than 1 percent.

percent at private four-year schools, 16 percent at public four-year schools, and 17 percent at public two-year institutions. Finally, the share of institutional aid amounted to 6 percent at proprietary schools, compared with 40 percent at private four-year institutions, 22 percent at public four-year institutions, and 31 percent at public two-year schools.

With respect to type of aid, overall about 58 percent of total aid came as grants, 36 percent as loans, and 7 percent as work-study payments. As family income increased, the share of aid in the form of grants decreased, but turned up for students from families with the highest income, probably because they got grants as institutional aid (see Table 8). The portion of aid in the form of loans increased with family income, but turned down for recipients from families with more than $50,000 in income. The percent of aid that was work-study aid tended to be constant among all income groups but the highest one, where it was higher (see Table C-2 for the basic data).

In contrast, as cost of attendance increased, the share of student aid received as grants decreased up to the most costly institutions, where it increased. The portion of aid obtained as loans increased with cost of attendance except at the highest-cost institutions, where it decreased. The percentage received as work-study aid varied little as the cost of attendance rose. Only at proprietary schools did recipients get more in loans than in grant aid. At these schools, recipients got 68 percent of aid as loans and 31 percent as grants, compared with 34 percent as loans and 59 percent as grants at private four-year institutions; 39 percent as loans and 54 percent as grants at public four-year institutions; and 16 percent as loans and 78 percent as grants at public two-year schools.

AVERAGE TOTAL STUDENT ASSISTANCE

Because postsecondary students benefit from general tuition subsidies that reduce posted tuition and mandatory fees below the costs incurred in providing the education as well as from student aid, this section examines the pattern of total student assistance--that is, student

TABLE 8. DISTRIBUTION OF FINANCIAL AID, BY TYPE OF AID, TYPE OF POSTSECONDARY INSTITUTION, AND FAMILY INCOME, FALL 1986 (In percent)

Type of Aid by Type of Institution	Family Income (Dollars)					
	0-11,000	11,000-17,000	17,000-30,000	30,000-50,000	More Than 50,000	All
Total						
Grant	71	66	56	50	57	58
Loan	23	28	38	44	33	36
Work-Study	6	6	6	6	10	7
Private Four-Year						
Grant	69	64	61	55	57	59
Loan	25	29	33	39	33	34
Work-Study	6	6	6	6	10	7
Proprietary						
Grant	49	46	28	12	18	31
Loan	50	54	71	87	79	68
Work-Study	1	0	1	0	3	1
Public Four-Year						
Grant	70	65	51	44	55	54
Loan	24	29	43	49	34	39
Work-Study						7
Public Two-Year						
Grant	83	78	76	71	85	78
Loan	9	16	19	21	14	16
Work-Study	7	6	5	8	1	6

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Figures are based on full-time, dependent undergraduate aid recipients. Figures may not add to 100 percent because of aid from other sources or of other types.

aid plus tuition subsidies. Since actual data on tuition subsidies are not available for 1986-1987, CBO estimated them. Because even students who received no student aid benefited from tuition subsidies, the results in this section cover all full-time, dependent undergraduates, not just those who received student aid.

Overall, estimated total student assistance in the fall of 1986 was allocated in a way similar to student aid, except in the case of proprietary schools (see Table 9). That is, average total student assistance increased as family income decreased and rose as cost of attendance (as measured by type of institution) increased--except for proprietary institutions. As was discussed earlier, tuition subsidy and institutional aid were not particularly relevant to proprietary institutions.

TABLE 9. ESTIMATED TOTAL STUDENT ASSISTANCE PER FULL-TIME-EQUIVALENT UNDERGRADUATE STUDENT, BY TYPE OF POSTSECONDARY INSTITUTION AND FAMILY INCOME, FALL 1986 (In dollars)

	Family Income				
Type of Institution	0-11,000	11,000-17,000	17,000-30,000	30,000-50,000	More Than 50,000
		Total			
Private Four-Year	12,567	11,927	10,814	9,577	7,798
Proprietary	4,259	3,800	3,240	2,502	1,709
Public Four-Year	10,219	9,485	8,601	7,893	7,323
Public Two-Year	5,126	5,009	4,339	3,957	3,843
		Adjusted Total			
Private Four-Year	11,058	10,389	9,416	8,407	7,290
Proprietary	2,959	2,522	1,856	1,207	857
Public Four-Year	9,405	8,771	7,977	7,488	7,157
Public Two-Year	4,918	4,728	4,203	3,862	3,822

SOURCE: Congressional Budget Office estimates based on data from the Department of Education.

NOTE: Total student assistance received by all students includes tuition subsidies (the difference between educational and general expenditures per full-time-equivalent student and average tuition and fees charged) plus any student aid. Adjusted total assistance is estimated by calculating student aid as the sum of grant aid and 40 percent of loans. See the text for details.

As a result, students at proprietary schools received the smallest total amount of assistance overall as well as at every level of family income, even compared with those at public two-year institutions. In addition, students at private four-year schools are more heavily subsidized than those at public four-year institutions. Because of state subsidies to public institutions, the difference between these two types of schools in total assistance per student is notably less than their difference in student aid amounts per student.

One limitation of this analysis of total assistance, however, is that it is based on total student aid and does not take into account the differing amounts of subsidy provided by grants, loans, and work-study aid. While grants are all subsidy, loans and work-study aid are not. Although recipients do not generally repay the full market cost, loans must be repaid. In contrast, work-study aid must be earned, and generally provides no subsidy for the student.[4] In effect, loans in part reduce the net cost of education and in part delay the time at which that cost must be paid until after the student leaves school. Work-study aid (along with loans) helps with the cash flow problem of paying tuition at the beginning of the year, but then must be earned by hours of work during the school year.

Most student loans are widely acknowledged to be subsidized, but the difficult issue is determining the value of their subsidy. Conceptually, the value of the subsidy is the difference between the market cost of the loan and the price students are charged (in terms of the interest rate and origination fee). Unfortunately, the market cost of student loans is difficult to determine for several reasons. First, comparable loans (allowing long-term repayment and not requiring collateral) are not readily available in the private market. Second, the interest rate charged on such private-market loans would probably vary according to the risk of default posed by each student. For example, interest rates would probably be higher on loans to students from low-income families than on those to students from high-income families and for those in vocational programs than for those in academic programs.

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[4] Work-study aid may involve some subsidy to students who would otherwise not be able to find jobs. The primary beneficiaries of work-study aid are, however, the institutions and other agencies that employ the recipients because they use the funds to pay recipients for work they might otherwise have had to pay for completely by themselves.

And third, recipients generally pay a fixed below-market interest rate on student loans, but market interest rates--and hence the value of the subsidy associated with a particular loan--vary with market conditions when the loan was made.

For purposes of this study, student aid was valued by including 100 percent of grants, 40 percent of loans, and none of work-study aid. While an estimate of the subsidy value of loans of 40 percent is arbitrary, it is in the middle of the range of estimates that have been made of its subsidy value in the past.[5] This treatment of loans and work-study aid does, however, ignore their usefulness in meeting cash flow demands.

Recalculating the value of total assistance per student after adjusting student aid for the amounts as loans and work-study reduces the average value of the assistance, but otherwise results in only minor changes from the general pattern of findings discussed above (see Table 9).

Finally, although total assistance decreases with increasing family income, the absolute amount of assistance going to students from families with the highest income remains substantial. For example, such students attending public four-year institutions received average assistance of over $7,000. This raises the issue of whether that allocation of total assistance was optimal, either with respect to promoting equal educational opportunity or some other goal. No objective answer to that question exists. But additional insight into this issue is provided in the next chapter where the net cost that dependent undergraduate students and their families pay for postsecondary education is discussed. This issue is also addressed in Chapter VI, which deals with the implications of this analysis for student aid policy. One question raised there is whether federal policy should go beyond promoting equal educational opportunity through student aid by trying to influence how public tuition subsidies are allocated.

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[5] The Congressional Budget Office currently estimates that the subsidy value of Stafford Loans made in the 1989-1990 academic year from the federal government's perspective is about 30 percent. For an estimate of the subsidy value of Stafford Loans going into repayment in fiscal year 1989, see Jerry S. Davis and Laura Greene, "How Federal Subsidies to the Stafford Loan Program Are Distributed Among Pennsylvania Borrowers," Harrisburg, Pa., Pennsylvania Higher Education Assistance Agency (April 1990).

CHAPTER V

WHAT IS THE NET COST OF POSTSECONDARY EDUCATION TO THE STUDENTS AND THEIR FAMILIES?

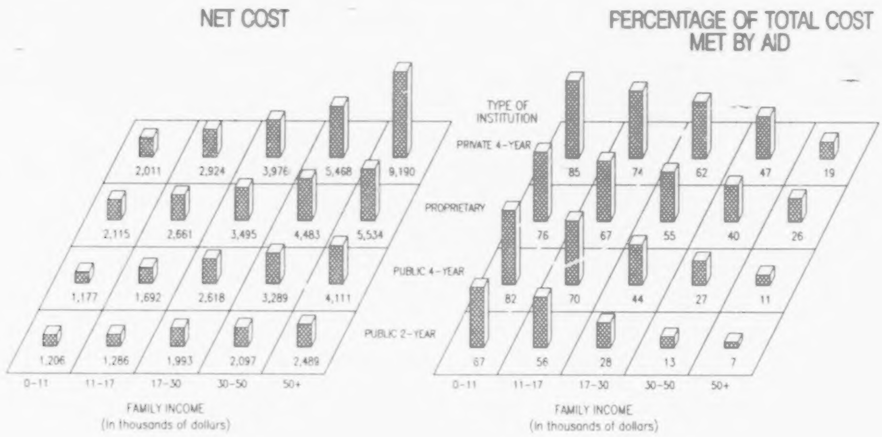
Student financial aid and tuition subsidies reduce the net cost of postsecondary education for students and their families. This chapter examines the patterns of net costs in terms of the family's ability to pay and the cost of attendance for full-time, dependent undergraduates. It also compares these net costs at the schools in which the students enrolled with their expected family contributions toward educational expenditures. The results presented in this chapter cover all students, unlike those presented in the previous chapter which were based only on recipients of student aid.

NET COSTS

The annual net cost of a postsecondary education is the actual annual cost paid by a student and the student's family. It is calculated as a student's reported total annual cost of attendance (tuition and fees, room and board, and miscellaneous expenditures) less student aid received, if any. Because of the way in which student aid is awarded--largely on the basis of ability to pay and cost of attendance--it should follow that actual or net cost would also vary by ability to pay and cost of attendance, and it does.

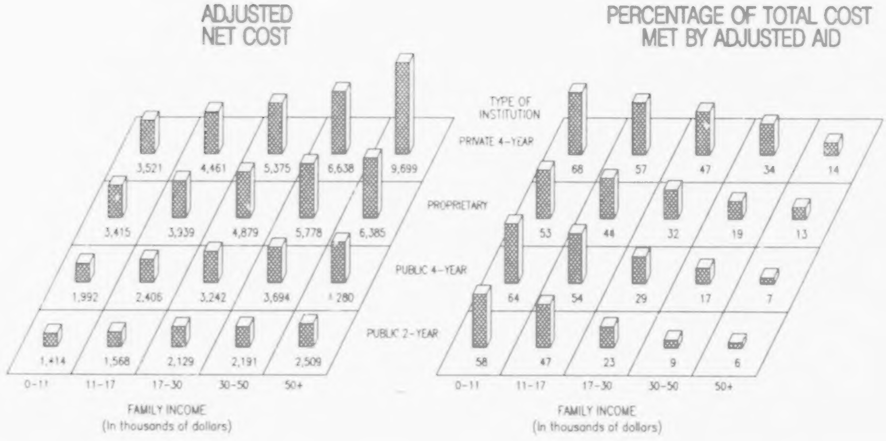
At every level of cost of attendance (here, measured in terms of type of institution), net cost declined as the ability to pay (or family income) decreased, thus promoting access to postsecondary education (see the upper left panel of Figure 6). For example, a private four-year education that had an annual net cost of $9,200 for those with the greatest ability to pay had an annual net cost of about $2,000 for those with the least ability to pay. A public two-year education with an annual net cost of about $2,500 for those with the greatest ability to pay had an annual net cost of about $1,200 for those with the least ability to pay.

Figure 6.
Average Annual Net Cost of an Undergraduate Education and Average Percentage of Total Cost Met by Aid, by Family Income and Type of Postsecondary Institution, Fall 1986
(Net cost in dollars per student)



NET COST

PERCENTAGE OF TOTAL COST MET BY AID



ADJUSTED NET COST

PERCENTAGE OF TOTAL COST MET BY ADJUSTED AID

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: "Net Cost" is calculated by subtracting all aid from the total cost of attendance. Total aid includes aid of all typesfrom all sources. Calculations are based on full-time, dependent undergraduates. "Adjusted Net Cost" is calculated by subtracting grant aid and 40 percent of loan aid from the total cost.

At every level of ability to pay, the incremental annual net cost of higher-priced institutions was reduced on average by student aid, thus fostering choice. For example, the annual average gross cost difference between public two-year and public four-year institutions was about $1,900 (see Table 3 in Chapter II). However, the average annual net cost was essentially the same for either public two-year or public four-year institutions for students with the least ability to pay, while the net cost difference between the two types of schools was about $1,600 for those with the greatest ability to pay. The gross cost difference of nearly $5,900 between private four-year and public four-year institutions was reduced to a net cost difference of only about $800 for those with the least ability to pay and to about $5,100 for those with the greatest ability to pay.

A more systematic way to look at the effects of student aid on net cost is to examine the percentage of total costs covered by financial aid (see the upper right panel of Figure 6). The general pattern of costs covered also follows the ability to pay and the cost of attendance: the percentage of costs covered increased as family income decreased and as costs rose. The greatest average share of costs covered--85 percent--was found for students with the least ability to pay at the most costly institutions, while the lowest average portion of costs covered--7 percent--occurred for those with the greatest ability to pay at the least costly institutions.

Although the aid award process counts all aid--grants, loans, and work-study aid--at face value, the real net costs students face are not reduced by loans and work-study the same way as by grants. When the value of student aid was recalculated to take into account the amounts as loans and work-study aid (counting all grants, 40 percent of loans, and no work-study aid, as discussed in Chapter IV), net costs were greater and the share of total costs covered by aid smaller because the value of student aid was reduced (see lower panels in Figure 6). Overall, however, the general pattern of net costs by ability to pay and cost of attendance resembles that discussed above.

The largest changes occurred where loans made up a significant fraction of total aid--predominantly at proprietary schools and the most costly institutions. Aid reduced the costs for students with the least ability to pay by 53 percent at proprietary schools using the adjusted valuation of aid, compared with 76 percent when all aid was counted at face value. As a result, the average adjusted net cost was about $3,400, not $2,100. Students from families with the lowest income at a private four-year college got a 68 percent cost reduction using the adjusted valuation, compared with 85 percent at face value, for a net cost of $3,500 instead of $2,000.

Another important impact of adjusting the value of student aid was to reduce the difference in net cost between those with the highest and lowest abilities to pay, which cut the extent to which the goal of access was addressed. Still another impact was to increase the difference in net cost between those going to the most and least expensive schools--which reduced the degree to which the goal of choice was pursued--compared with counting all aid at face value. In particular, this adjustment raised the net costs of students with the lowest ability to pay more than those with the highest ability to pay. Moreover, it increased the incremental cost of choosing higher-cost institutions because relatively more aid was awarded as loans as the ability to pay declined and as the cost of attendance increased.

NET COSTS RELATIVE TO EXPECTED FAMILY CONTRIBUTION

The patterns of net costs discussed above suggest that student financial aid was allocated in a way consistent with promoting equal educational opportunity. The issue remains, however, of the extent to which equal educational opportunity has been achieved. As discussed in Chapter II, one can address this issue by examining how net costs at the schools where students enrolled compare with the expected family contribution toward postsecondary education. For the objective of access, the standard of net cost equal to (or less than) EFC (or a ratio of net cost to EFC of 1) is appropriate in determining whether access is available to any student at some designated institution of access--for example, a public two-year or public four-year school.

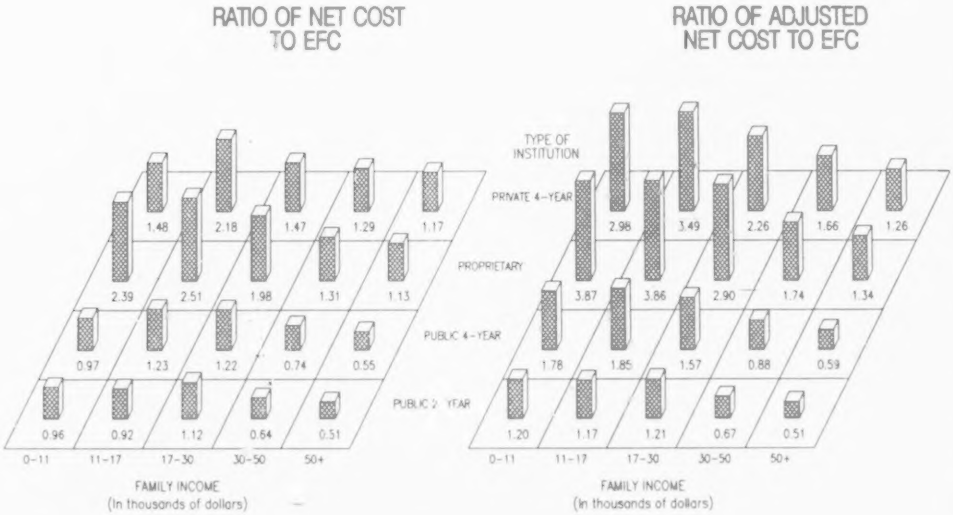
The objective of choice, in contrast, cannot be evaluated by the standard of net cost equal to (or less than) EFC at all types of schools because unmet need can be expected to exist at schools of choice. Rather, for choice, the issue of achieving equal educational opportunity becomes one of determining how much more net cost should exceed EFC at schools of choice. Responses to this issue will differ. However, empirical comparisons of net cost relative to EFC at schools of choice at different levels of family income can still be informative, and data on net costs relative to EFC are presented in this chapter.

While the logic of current systems for analyzing financial need makes the relationship between net cost and EFC basic to evaluating whether equal educational opportunity is being met, the empirical meaningfulness of this comparison depends on whether EFC accurately reflects true ability to pay. Since the EFCs calculated by the Pell Grant Program and by the Congressional Methodology differ and both are modified with some regularity, no absolute judgment is possible on the relationship of net costs to EFC, and hence on whether equal educational opportunity has been achieved. Furthermore, recall that this study used the EFC as determined by the Uniform Methodology--the precursor to the Congressional Methodology.

With respect to the objective of access, results were similar using either public two-year or public four-year institutions as schools of access. Using public two-year institutions, all students at such schools, except for those whose family income was between $17,000 and $30,000, had average net costs less than EFC (see the left panel in Figure 7). Using public four-year institutions, all students except those from families with income between $11,000 and $30,000 also had average net costs less than EFC. Adjusting net costs for loans and work-study aid increased net costs relative to EFC, with the result that at both public two-year and public four-year institutions net costs exceeded EFC for all students from families with income less than $30,000 (see the right panel in Figure 7).

One can argue, however, that net cost adjusted for the amount of aid as loans should not be compared with the EFC. The reason is that EFC represents an amount to be paid out of current annual income and assets, while the adjusted net cost represents the net present value of costs that will be paid at least in part over time (often by the student who has received the education). An appropriately adjusted EFC would take into account that, just as annual net costs are not paid in one year, the ability to pay for postsecondary costs does not have to be based solely on what can be diverted each year out of current income and assets. Past income or expected future income or changes in ability to pay should also be considered. From this perspective, EFC should be replaced with a measure of the present value of the resources that were and will be available to pay those costs, and this new value should be compared with the adjusted net cost. Calculating such a value would require data on past and future income, however, and not be attempted here.

Figure 7.
Net Cost of an Undergraduate Education Relative to Expected Family Contribution (EFC), Fall 1986



SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Figures are based on full-time, dependent undergraduates. Minimum expected family contribution (EFC) is $700. Net cost is calculated using total aid from all sources. Adjusted net cost is calculated by subtracting grant aid and 40 percent of loan aid from the total cost.

As for the objective of choice, the basic finding is that net cost relative to EFC tended to increase as cost of attendance rose, and the net cost relative to EFC for schools of choice tended to increase as family income decreased. If a public two-year school is seen as the basic institution of access, students from families with incomes of less than $11,000 face a net cost about equal to EFC to attend a public four-year institution; a net cost about 140 percent greater than EFC at proprietary schools; and a net cost about 50 percent more than EFC at private four-year schools. In contrast, students from families with incomes of $50,000 or more had a net cost of less than 60 percent of EFC at public four-year institutions; about 10 percent more than EFC at proprietary schools; and about 20 percent more than EFC at private four-year institutions. This pattern indicates that the choice of more costly institutions was relatively more expensive for students from families with low incomes than it was for those from families with high incomes.

PRICE DISCRIMINATION IN POSTSECONDARY EDUCATION

The patterns of annual net costs for an undergraduate education reported above reflect what economists call price discrimination. Price discrimination exists when different groups of buyers of the same service incur different net costs (or, as economists would say, face different net prices). As discussed above, students at varying levels of ability to pay purchase the "same" undergraduate education (as de-fined by the type of institution) at different net costs.

Price discrimination for postsecondary education can occur for two reasons. First, postsecondary institutions know what college applicants and their families are able to pay because applicants must reveal their family income and assets when applying for student aid. Second, students cannot resell the education that they may buy at a low net cost to other students for a higher net cost.

Price discrimination in postsecondary education has two bases: public policy and institutional behavior. Public policy deliberately creates price discrimination by awarding aid partly on the basis of an applicant's ability to pay. Although the specific patterns of net prices are determined through the action of the different partners in the student aid delivery system, price discrimination is inherent in the basic formula used to determine financial need.

Institutions use price discrimination when they award institutional aid on the basis of an applicant's ability to pay. Institutional awards are constrained to the extent that such aid goes to students also receiving federal aid because aid to these students is limited to the financial need determined through the Congressional Methodology. But some students get only institutional aid.

One effect of price discrimination at postsecondary institutions that award institutional aid is that students not getting institutional aid implicitly subsidize those paying lower net costs because of that aid. Realizing this, some institutions have claimed that they are in effect playing "Robin Hood" through their institutional aid policies. By this they mean that the higher net costs paid by students from families with high incomes allow the schools to reduce net costs for students from families with low incomes through the awarding of institutional aid.

WHO BENEFITS FROM STUDENT AID IN THE AGGREGATE?

So far, this study has tried to explain how student aid is supposed to be awarded to individual students and to examine how student aid actually was allocated, on average, to individual students classified by family income and the cost of the institution they attended. But several other ways exist to analyze the allocation of student aid.

A second perspective looks at what groups of students (defined by their level of family income) and what basic types of institutions benefited from student aid. With respect to the groups of students, this question is answered in terms of how much aggregate aid was awarded to them. With respect to types of institutions, this question is answered in terms of how much aggregate aid went to students enrolled in them. A third way to look at the allocation of aid is in terms of aid per student for groups of students (defined by their level of family income) at the different basic types of institutions.

One reason to look at aid patterns in terms of the overall allocation of student aid is that some analysts have characterized student aid as a set of programs intended to help the disadvantaged but that have actually primarily benefited middle-income students and wealthy institutions. In fact, full-time, dependent students from families earning from $17,000 to $50,000 got the largest aggregate amount of federal aid (see Figure 8).

By type of institution, students attending private four-year institutions received the most federal aid, followed by students at public four-year, proprietary, and public two-year institutions. Although full-time, dependent enrollment in public two-year institutions exceeded that in proprietary schools by about five and one-half times in the fall of 1986, proprietary schools received over 15 percent more annual aggregate federal aid.[1] When all students--including independent and part-time students--are included in this type of analysis, the results are slightly different. For example, students attending public four-year institutions got the most aggregate federal aid, followed by those at private four-year, proprietary, and public two-year institutions. In addition, independent undergraduates are estimated to receive almost 50 percent of total federal aid (see Appendix C, Table C-3, for aggregate federal aid that includes independent and part-time students).

Chapters II and III reported that student aid was provided to individual recipients on the basis of relative need--thus favoring the students from the lowest-income families at the highest-cost institutions. Nonetheless, overall, middle-income students as a group and those attending private four-year institutions were the major beneficiaries of aggregate federal aid. These findings follow for several reasons. First, in terms of enrollment, the number of full-time, dependent undergraduates generally increased with family income. Overall, the largest numbers of undergraduates came from the highest-income families (those earning more than $50,000); the smallest number, from the

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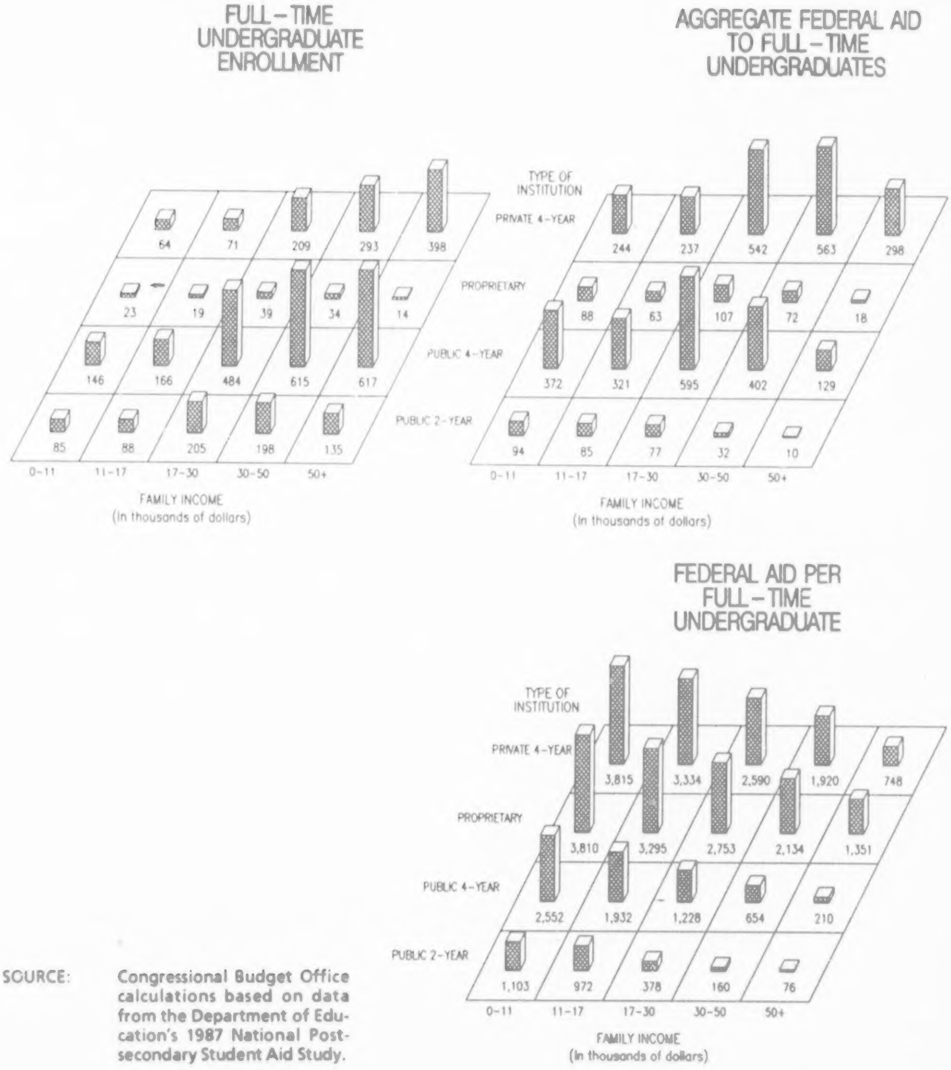
[1] Even this estimate is probably too low for proprietary schools because its source, the 1987 National Postsecondary Student Aid Study, relatively underestimated the annual number of proprietary students and hence the federal aid to such students.

Figure 8.
Full-Time, Dependent Undergraduate Enrollment, Aggregate Federal Aid Awarded to These Students, and Federal Aid Per Full-Time Student, Fall 1986 (Enrollment in thousands of students, aggregate aid in millions of dollars, and federal aid per full-time student in dollars)



SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

lowest-income families (those earning less than $11,000). The relationship between enrollment and income is strongest at the most costly institutions and weakest--or nonexistent-- at proprietary schools. Second, because federal aid overall was sensitive to cost of attendance, the higher the cost of attendance, the more federal aid students got relative to enrollment.

Looking at the allocation of federal aid per full-time student, including both aided and unaided students, provides a contrast. An examination of federal aid per full-time student in terms of family income and type of institution reveals the general pattern of aid being awarded on the basis of need. The largest amounts of federal aid per full-time student go to students from families with the lowest income at the most costly institutions--private four-year schools. The least amount of federal aid per student goes to students from families with the highest income at the least costly schools--public two-year institutions (see Figure 8).

The addition of tuition subsidies and student aid provided by states would probably slightly change the results found for federal student aid alone. These additional forms of support tend to be spread evenly among students at public institutions. Consequently, the relative benefits received by students from middle- and upper-income families would be increased. Because students at proprietary schools receive relatively small amounts of state student aid and no direct state subsidies, the amount of total support for them would increase little.

CHAPTER VI

POLICY ISSUES FOR THE AWARDING OF STUDENT AID

This study has analyzed data on full-time, dependent undergraduates to determine how the allocation of student aid relates to the goal of equal educational opportunity. Based on the findings from this analysis, this chapter raises several issues of student aid policy. The policy issues discussed are:

- Is the current pattern of net costs paid by students and their families reasonable?
- Should proprietary schools have separate student aid programs?
- What should be the federal role in providing aid?

ARE NET COSTS REASONABLE?

One can approach the question of whether net costs are reasonable from several perspectives. From the broadest perspective, this question really raises the issue of who should pay for postsecondary education. The net cost--which is total cost of attendance less any student aid received--is what parents and students pay directly.[1] The substantial other costs are paid by society, either through public funds or charitable contributions. From this broader perspective, the question of whether net costs are reasonable translates into asking whether parents and students are paying their fair share for postsecondary education compared with what society pays. Pursuing this line of inquiry, one can even go further and examine the relative shares paid by parents and by students, the primary beneficiaries of the education.

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[1] The total costs incurred by students include forgone earnings, which probably significantly exceed direct costs.

This pursuit raises the difficult issue of the extent of parents' responsibility to help pay for their children's postsecondary education. Significant as these issues are, they are beyond the scope of this study, which is focused on the operation of the current student aid system.

From the more narrow perspective of the current student aid system, asking whether net costs are reasonable is really the same as asking about the extent to which equal educational opportunity exists since the purpose of most student aid is to reduce net costs in order to foster equal educational opportunity. It is this question which the analysis presented below explores.

Before using the findings from this study to examine how well the current student aid system is working and to consider what changes to it might be made, however, it is essential to realize that the findings of this study cover only the actual choices that students made--for example, with respect to type of school and residence. Consequently, the results cannot be generalized to youth who were potential students but chose not to attend postsecondary institutions. In other words, if the findings of this study were interpreted to mean that the current system promotes equal educational opportunity, this conclusion would only hold with respect to youth who chose to become students and not necessarily for other youth who did not attend postsecondary institutions. The findings in this study also may not be a useful guide in assessing how changes in the current system would affect current students because their choices of school and residence could well be different under a modified aid system.

USING NET COST AND EXPECTED FAMILY CONTRIBUTION TO ASSESS EQUAL EDUCATIONAL OPPORTUNITY

Two general responses are possible to the findings in this study regarding the relationship of net cost to EFC. On the one hand, one might conclude that the current aid system had essentially achieved equal educational opportunity. In terms of meeting the goal of access, such a conclusion could be based on counting all aid at face value and using enrollment at a public two-year institution as the standard for meeting access since the average net cost was less than the average

EFC at these schools. Again, this conclusion assumes that, if they had instead chosen to go to public two-year institutions, people choosing either to attend higher-cost institutions or not to enroll in any postsecondary institution would have had net costs similar to those who did choose public two-year institutions.

In terms of meeting the goal of choice, the conclusion that the current system was working well could reflect the view that, while net cost generally rose relative to EFC when students chose higher cost institutions, these increases are inevitable because unmet need will always exist and because the increases were relatively modest. For example, for students from families with the lowest income, the net cost relative to EFC of choosing a public four-year institution was about the same as a public two-year school. Choosing a private four-year institution, these observers would note, meant a net cost of about 50 percent more than EFC (see Figure 7).

On the other hand, one might conclude that the current aid system was not working well in achieving equal educational opportunity. One might believe, for example, that achieving access requires that enrollment in a public four-year institution be possible without requiring students and their families to pay more than their EFC. Although this holds on average for students attending public four-year institutions, it is not true for such students from families with income between $11,000 and $30,000 (about a third of students attending those institutions). One might also think that all aid should not be counted at face value because the enrollment behavior of students is believed to differ when aid is given as grants rather than as loans and work-study jobs. When aid is recalculated to reflect this judgment, average net cost exceeded the average EFC for all categories of students except those with family incomes above $30,000--even at public two-year institutions.

With respect to the goal of choice, similar concerns could be raised. Even starting from the position that access requires enrollment in a public two-year institution, one could argue that the objective of choice was not being met because the net cost relative to EFC at schools of choice was higher for students from families with low income than for those from families of high income, regardless of whether or not one recalculated the value of aid to reflect the amounts received as loans and work-study.

Options to Change Net Cost Relative to EFC

If one believes that the aid system is not working well in achieving equal educational opportunity based on the relationships between net cost and EFC, several options are open. They include changing the EFC; reallocating aid to favor access over choice, or choice over access; changing the mixture of aid provided as grants, loans, and work-study jobs; changing the amount of aid available; and changing the pattern of state subsidies.[2]

Changing the Level of the Expected Family Contribution. The basic policy issue regarding the EFC is whether it is too high or too low--or too high for some families and too low for others. Increasing the EFC would in general increase the net cost of attendance for the student, while decreasing the EFC would increase the need for aid as calculated in the current formula for analyzing financial need--need that might or might not be met by aid.

Two arguments are often made for lowering the EFC. The first is that the EFC is so high that it reduces access to postsecondary institutions, especially among youth from families with the lowest incomes. According to this argument, a lower EFC would increase access and enrollment among youth from these families. Although a lower EFC would probably result in more aid being awarded, and hence would increase public costs for the aid, the additional education produced would probably contribute to future growth in productivity and larger federal revenues in the long run. In response, some argue that reducing the EFC is unlikely to have much effect on the enrollment behavior--and hence future productivity--of youth from families with low income, but would increase the need for aid among all youth who already attend postsecondary institutions.

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2. The last option is discussed in the final section of this paper, which addresses the issue of the appropriate federal role in determining student aid policy.

The second argument holds that the current EFC is too high because of its tax on assets--in particular, on the value of the family home. As a result of various economic conditions over the past 15 years or so, housing prices in most areas have increased substantially more than inflation, and some homeowners say that they could not afford to purchase their current homes. According to this perspective, it is unfair to require some of these homeowners to pay for their children's education by selling their houses or taking out a mortgage or home equity loan that they could have difficulty paying back. Consequently, EFCs could be lowered for those who have relatively low incomes but large assets (as a result of inflated housing values) by redefining what assets are to be used to pay for postsecondary education or by cutting the marginal tax rates on assets for those with relatively little income. In contrast, some argue that the inflated value of houses is real and should be used to pay for postsecondary education. The unwillingness of homeowners to draw on that wealth could result in their children getting student aid to the detriment of the children of those who do not own homes.

In contrast, two arguments for increasing the EFC are also made. The first argument holds that the large federal deficit facing the country requires tightening up in many programs, including student aid. A general way to reduce the need for federal student aid is to increase the EFC. In response, some argue that cutting student aid is misguided. Because it fosters equal educational opportunity in terms of both access to and choice of postsecondary institutions, student aid should have a higher priority than other programs addressing values less central to American society.

The second argument asserts that the EFC for higher income families is not, relatively speaking, as burdensome to them as is the EFC of lower-income families. Although student aid is essential for many students to enroll in postsecondary education, for others it primarily allows a choice of more expensive institutions. For these students--who come predominantly from middle- and higher-income families--it is not a question of whether to enroll, but of where. Thus, student aid for these students to attend more expensive institutions may not be warranted because convincing evidence does not exist that society benefits from the public subsidy that allows them to attend more costly proprietary and private institutions. This view suggests that the EFC should be raised only for high-income families, thereby protecting students from low-income families and having little impact on students from high-income families who choose schools where costs are moderate or low.

Alternatively, increasing the EFC for students from families with higher income would probably result in their being less likely to select higher-cost institutions. Moreover, a higher EFC for students from families with high income would reduce their net cost relative to EFC. To make their net costs relative to EFC at schools of choice the same as those faced by students from families with low income, either their net costs would have to be increased or savings from this change used to lower net costs for students from low-income families. One way to increase their net costs would be to have states reduce their institutional subsidies and increase tuition at public institutions, an option that is discussed below.

Changing the Way the Expected Family Contribution Is Calculated. If the EFC were to be changed, it could be changed in three fundamental ways: by changing the time-frame to be used for paying the EFC; by changing the amounts of income or assets (or both) defined as available for paying the EFC; or by changing the tax rates applied to the eligible bases of income or assets (or both).

At present, the system for awarding need-based aid implicitly assumes families pay each year's EFC out of current annual income. For example, the family's basic living allowance (which is deducted from total income in the process of determining a family's discretionary income) assumes that families will adopt a modest but adequate standard of living each year they are paying for their child's postsecondary education. Furthermore, net assets are currently assessed in an analysis of need by converting them to an income supplement at a top rate (of 12 percent of the net assets) that is assumed to reflect the average annual return (or income) currently available from assets. The income supplement becomes part of the total income available to be "taxed" to yield the family contribution.

Changing the time frame over which the EFC is to be paid could be achieved in various ways. A longer perspective could be achieved in analyzing need by including an explicit expected parental savings amount or by applying higher tax rates to net assets with a minimum yield. Those who did not save in the past or who are unable to meet the minimum contribution from assets could be expected to borrow and pay back the loan in the future. An advantage in extending the time over which the EFC should be paid is that it would lower the financial burden faced by parents at any given time. Paying for postsecondary education each year is now a major expense, like purchasing a new car, and extending payments beyond one year is an appropriate way to handle the cost. A disadvantage is that the burden of paying for postsecondary education could require changes in lifestyle over a longer period of time.

The second way to change the EFC involves altering the income or asset bases. The income base could be increased by limiting the deductions that are currently allowed from gross income or reduced by adding additional exclusions. Similarly, more assets could be subject to taxation (including those that are expected to generate retirement income) or larger amounts of assets could be excluded from the amount subject to taxation.

Changing either the income or asset bases could have different effects depending on the family income level. An advantage of changing the income base is that amounts and sources of income can be relatively well documented. A disadvantage is that the accuracy of the data reported by aid applicants could suffer if the new deductions and exclusions do not match those used by the Internal Revenue Service as closely as current ones do. An advantage of changing the asset base is that some families' full ability to pay may not have been accurately assessed because all forms of assets were not counted. A disadvantage is that assets can be difficult to value, and changing the reliance on them could lead to problems with accurate reporting.

Possible changes in tax rates include altering the relative tax rates on income and assets and raising or lowering the rates for all families either proportionately or disproportionately. An alternative change in the EFC would be to lower the tax rates for low-income families and to increase them for high-income families. Such a change could increase access among youth from low-income families as well as raise the cost of choosing more expensive institutions for some high-income families if no additional aid were made available. Assuming that students from families with low income got more student aid as a result, this change would also reduce the net cost relative to EFC for these students and make the relative costs of their schools of choice closer to those of students from families with high incomes. Reducing the EFC for youth from families with low income and increasing it for those from families with high income might not, however, significantly increase the enrollment of low-income youth, and it could reduce the number of high-income youth who choose higher-cost institutions.

Regardless of whether the EFC is changed, an argument exists for reexamining the basis on which ability to pay is calculated through current systems for analyzing need. Both the Congressional Methodology and its predecessor, the Uniform Methodology, use a similar approach to determine the base of available resources that is taxed to arrive at the EFC. This approach is based on a 1967 survey done by the Bureau of Labor Statistics (BLS), whose results have been adjusted for inflation annually ever since. Consumer spending patterns have changed considerably since then, and this is not accounted for merely by adjusting for general inflation. Moreover, changes have occurred in the patterns of asset holdings. A review of the methodology used to determine the ability to pay with respect to both income and assets could result in an improved method for determining the EFC, thereby making it more equitable for all applicants for student aid. Data from the Consumer Expenditure Survey conducted periodically by the BLS might also be appropriate to use in regularly updating ability-to-pay standards.

Changing the Emphasis Between Access and Choice. Whenever students have unmet financial need--which, as discussed above, will generally be the case for students at schools of choice--a trade-off exists between using the limited amount of aid primarily to ensure and enlarge access or to promote choice For the full-time, dependent undergraduates enrolled in the fall of 1986, about two-thirds of their federal aid went to promote choice, assuming that public two-year institutions are the basic institutions of access and measuring aid at face value, as it is awarded through the current system for the analysis of need (see Table 10). The amount for choice was estimated as the difference between the amount of aid actually awarded at the school of choice and the amount of aid the student would have gotten attending an average-cost school of access.

In contrast, one-fourth of federal aid went to pay for choice when public four-year institutions are assumed to be the basic institutions of access and aid is measured at face value. Adjusting aid for the portions awarded as loans and work-study (that is, calculating total federal aid as federal grant aid plus 40 percent of federal loans) lowers the share of aid going for choice only slightly (again, see Table 10). In general, relatively more federal aid went for choice as the family income of the students increased and as the cost of the institution attended increased. This pattern held whether aid was measured at face value or adjusted for the portions received as loans and work-study aid.

The basic policy issue is, at current total aid levels, should the emphasis between access and choice be changed? The argument for reallocating aid to expand access is that the enrollment rates for students from low-income families remain substantially below those for students from higher-income families. If aid were reallocated so that no unmet need existed for students from families with low income (and perhaps if their EFCs were reduced as well), then access--and specifically, the enrollment--of such youth would probably increase. In contrast, some analysts believe that increasing the emphasis on choice could benefit many current students, especially from families with low incomes, by allowing them to choose and attend different institutions. To achieve this outcome, more aid could be allocated to students from families below a certain income level who enroll in more selective and more costly institutions.

In conjunction with the postsecondary decisions that students and their families make, policymakers--through legislation, regulations, and institutional aid policies--collectively control the shares of aid going for access and for choice. Because aid comes from so many different sources, complete control by any one source over the shares going

TABLE 10. THE ESTIMATED PROPORTION OF FEDERAL AID TO FULL-TIME DEPENDENT UNDERGRADUATES USED TO PAY FOR SCHOOLS OF CHOICE, BY SCHOOL OF ACCESS, TOTAL AND ADJUSTED AID, TYPE OF POSTSECONDARY INSTITUTION, AND FAMILY INCOME, FALL 1986 (In percent)

Students by Type of Institution Attended	Family Income (In dollars)					
	All	0-11,000	11,000-17,000	17,000-30,000	30,000-50,000	More Than 50,000
Total Aid						
School of Access: Public Two-Year						
All	65	56	59	57	83	81
Private Four-Year	81	71	72	74	91	90
Proprietary	78	71	79	75	92	95
Public Four-Year	56	57	57	45	75	66
School of Access: Public Four-Year						
All	25	14	18	15	39	49
Private Four-Year	49	33	42	29	66	70
Proprietary	45	33	41	33	69	84
Adjusted Aid						
School of Access: Public Two-Year						
All	63	50	49	67	82	68
Private Four-Year	80	65	66	82	92	83
Proprietary	76	65	67	82	92	90
Public Four-Year	58	52	47	62	75	44
School of Access: Public Four-Year						
All	25	11	14	25	39	46
Private Four-Year	52	27	36	52	67	69
Proprietary	46	28	38	54	67	82

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Federal aid to promote choice was calculated as the difference between the amount of aid actually awarded at the school of choice and the amount of aid the student would have gotten to attend a school of access with an average cost. Adjusted aid consists of all federal grant aid plus 40 percent of federal loans. See the text for further details.

for access and for choice would be difficult to achieve. But the formula for analyzing need is central in determining how much aid goes to access and how much to choice. Thus, the "correct" levels of EFCs and the "best" balance between the goals of access and choice must be determined simultaneously. These issues cannot be considered independently.

Currently, the definition of need is the total cost of attendance minus EFC. Two types of changes are possible to alter the emphasis on access as opposed to choice. The first involves changing the EFC for selected income groups. Reducing the EFC for low-income families (but not for others) would raise their measured need and probably their aid, thereby probably increasing access for students from low-income families. Conversely, reducing the EFC only for higher-income families would increase their need whenever more costly institutions were selected, thus expanding their choice.

The second way to change the emphasis on access or choice would be to alter the basic formula for analyzing financial need. Under the current formula, the impact on financial need from a one-dollar increase in cost--as when a student chooses an institution with higher tuition and fees--is the same as that from a one dollar decrease in EFC: both increases measured financial need by one dollar. To emphasize access over choice, only some fraction of costs could be counted (as is done in awarding Pell Grants) or some absolute dollar limit could be set on costs to be considered in determining need for aid (for example, the cost of attendance at a public two-year or four-year institution). An alternative would be to combine these strategies. One example would be to define recognized costs of attendance as 100 percent of the first $3,000 and 50 percent of amounts above that, up to total recognized costs of, say, $8,000.

To emphasize choice over access, the formula could count only tuition and fees as costs of attendance for purposes of determining need for aid. Alternatively, it could count only some fraction of the EFC in determining need for aid--although families would be expected to pay their full EFC before getting any aid.

Changing the Mixture of Aid Provided as Grants and Loans. The issue of how aid should be divided between grants and loans has become a more prominent policy issue lately as the cost of defaults on student loans has increased. A basic issue in determining the proper balance between grants and loans is the degree to which postsecondary education is considered a form of a consumption as opposed to an investment. To the extent that postsecondary education generates immediate benefits and pleasures, one can consider it a form of a consumption similar to other purchased services. Many college campuses, for example, are pleasant places to spend time surrounded by people of similar age and interests.

In contrast, one can consider postsecondary education as an investment to the degree that it produces human capital in the form of skills and knowledge that generate wealth and income over time. This wealth and income can accrue to the individual student, to society, or to both. The individual benefits to the extent that her or his lifetime earnings and wealth increase as a result of postsecondary education. In contrast, society gains if those educated in postsecondary institutions behave in ways that benefit everyone. Social benefits are widely acknowledged by their advocates to be difficult to measure, but they may include a more enlightened electorate, greater political stability, and greater socioeconomic mobility.

Social returns to postsecondary education are a primary justification for public subsidies for postsecondary education--including student aid in the form of grants or subsidies attached to loans (for example, below-market interest rates). While social returns may not serve as incentives for individuals to enroll in postsecondary education (as gains in income would), society is held to gain if youth enroll and therefore should subsidize them to do so. Without public subsidies, it is argued, too few youth would enroll and the society would lose out on additional benefits.

The issue of whether student aid should be in the form of grants or loans is linked to the issue of whether postsecondary education produces social benefits or primarily results in private gains (such has higher earnings) to the student. Since grants (as pure subsidies) are more effective than loans (either subsidized or unsubsidized) in encouraging enrollment, student aid in the form of grants would be preferred to the extent that postsecondary education produces social benefits. In contrast, if the benefits of postsecondary education accrue primarily to individuals, then student aid in the form of unsubsidized loans would be preferred, but even subsidized loans would be preferred to grants. In other words, the individuals who benefit from education should pay for it.

Does postsecondary education create social benefits? Various analysts have interpreted differently the empirical research on this issue. Those who hold that postsecondary education generates basically only individual benefits argue that empirical evidence of social benefits is weak or nonexistent. Such analysts argue that more student aid in the form of loans is appropriate and desirable. Those who assert that postsecondary education does have social benefits argue that the benefits are such that conventional empirical research cannot capture them. For example, how can the value of a more vigorous democracy be measured? Analysts of this persuasion believe more student aid should be available as grants.

A variation of the issue of whether postsecondary education produces social benefits or not and consequently whether aid should be in the form of grants or (strictly speaking, unsubsidized) loans concerns schools of choice. Some analysts argue that, while postsecondary education itself produces social benefits, convincing evidence does not exist that enrollment in schools of choice produces any greater social benefits than enrollment in schools of access. These analysts want student aid available as grants for schools of access, but only loans (ideally, unsubsidized) for the additional costs of schools of choice.

In contrast, other analysts argue that schools of choice produce greater social benefits than schools of access, asserting that such schools provide a special atmosphere in which some students can realize their potential and that public leaders are more likely to have gone to schools of choice. These analysts argue that relatively more aid should be available as grants for schools of choice to encourage a broad range of students--especially those from low-income families--to enroll in them.

The cost of loan defaults is yet another factor in considering the balance between grants and loans. Defaults on student loans have been increasing, and federal spending to cover defaulted loans now amounts to about $2 billion annually. Some analysts are concerned that these defaults result because students have been required to pay for so much of their education that they have found themselves overburdened with debt and unable to pay it back. The way to address their debt burden, it is argued, is to increase grant aid, even though it would cost significantly more than paying for defaults. Others counter that although loan defaults are rising, the vast majority of borrowers pay back their student loans. Furthermore, more might be done to reduce defaults at the relatively small number of schools where default rates are high.

Changing the Amount of Aid Available. Another way to change net cost relative to EFC is to change the amount of aid available. Increasing the amount of aid would reduce net cost relative to EFC for students with unmet needs. Assume enrollment at public four-year institutions is deemed necessary for access. In that case, increased aid would be needed to reduce average net cost relative to average EFC for the portion of students enrolled--or wishing to be enrolled--there who have unmet needs, assuming no change in the overall mix of aid for access as opposed to choice.

More aid could also reduce the increase in net cost relative to EFC that occurs when more costly institutions are chosen. The argument against increasing aid is that the current pattern of net costs relative to EFCs is acceptable, especially in an era of severe budgetary pressure for the federal government. Students at public two-year institutions generally have average net costs about equal to their average EFCs. Choosing a more costly institution results in a higher net cost, but in this view, that is only appropriate.

Increasing aid would, however, probably result in behavioral changes among both students and institutions. Greater aid might lead some youth not now enrolled to attend. It could also result in some students choosing more costly institutions for which they would end up paying the same net cost. Moreover, some higher-cost institutions might have to expand their capacity to accommodate the increased enrollment. It might also prompt some institutions to increase their tuition and fees, since doing so would leave at least some of their students paying the same net cost they now pay, and thus not result in the institutions losing enrollment.

Thus, the overall result of additional aid is unclear in terms of its effects on patterns of net cost and on the relationship between net cost and the EFC. Although one can conjecture that additional aid would reduce net cost for some students, the overall impact would be less than if no behavioral changes occurred.

Decreasing the amount of aid, in contrast, would increase net cost relative to EFC. Some argue for reducing aid by asserting that, while less aid might lead to reduced enrollment, too many students now enroll in postsecondary institutions only because aid is available, not because they have the interest in, or ability to benefit from, the education. Others argue that too much aid is available for students from families with high incomes who select schools of choice, and that aid could be reduced without reducing enrollment in schools of access by changing the aid allocation rules to favor those schools.

SHOULD PROPRIETARY SCHOOLS HAVE SEPARATE STUDENT AID PROGRAMS?

Another policy issue that has been widely discussed recently is whether proprietary schools should have a separate aid program at the federal level. Concern about the participation of these schools in existing federal student aid programs has grown as the proportion of aid going to students at proprietary schools has increased and as their share of loan defaults has risen. CBO's findings show that proprietary school students were more likely to get loans and larger loans than other students. And they were also more likely to receive federal aid and less likely to receive institutional or state aid. Proprietary school students--who make up less than 20 percent of postsecondary enrollment--now get over 25 percent of Pell Grant aid and about 30 percent of the Stafford Loan volume. They are also more likely to default on their loans, although in part this is because proprietary schools enroll a higher proportion of disadvantaged students who are more likely to default than other students.

Proprietary schools are also a concern to some analysts because they are run for profit and, unlike other institutions, do not get other subsidies to lower the costs they must charge students. Some conclude that these schools have incentives to admit students who are academically unqualified but eligible for student aid, who are more likely to become disillusioned and fail to complete their programs, and who are, therefore, more likely to default on their loans. Others counter that such schools are much more sensitive to the skills in demand in the labor market and more likely to provide training that will help graduates of their programs get jobs. Completion rates of students at proprietary schools--many of whom are minority and at-risk students--are higher, they note, than at most other types of institutions, including community colleges.

Basic to the issue of whether proprietary schools should be allowed to participate in the same student aid programs as academically oriented schools is the nature of the services they provide. One perspective holds that old conceptions of "higher education" are irrelevant and even misleading with respect to the demands of the modern labor market. In the past, higher education--education beyond secondary school--meant college, or stereotypically, a four-year liberal arts degree. Today, "postsecondary education" has replaced "higher education" because education after high school constitutes a continuous spectrum from the research university through the college and community college to vocational schools, many of which are proprietary. Community colleges were especially instrumental in broadening "higher education" to "postsecondary education" because they offer both traditional academic programs and vocational programs. Those who oppose a separate aid program for students at proprietary schools fear that establishing one would imply that this form of postsecondary education is inferior to others.

An alternative perspective observes that education and job training are different. While drawing a line between the two can be difficult--the knowledge imparted in getting an education surely helps in securing employment and higher income after college--the larger institutional purposes are very different. Education is concerned with developing character, clarifying values, and transmitting knowledge. Job training consists of learning a relatively narrow set of skills to sell in the labor market. The time frame for the payoff from schooling also differs, with education taking longer to complete than job training. From this perspective, proprietary schools do not belong in student aid programs because they offer job training. Universities and (four-year) colleges do belong because they educate. Community colleges present a more difficult case because they offer both academic and vocational courses, but a line could be drawn on the basis of program purpose.

Distinguishing between education and job training would not mean that those seeking job training should get no financial support from the federal government. Rather it could mean that separate programs should be established for them so that legislation and regulations could be sensitive to the unique nature of job training.

An alternative to separate student aid programs for proprietary institutions would be a policy that directly addresses one of the chief concerns associated with proprietary schools--namely, high loan default rates. Such a policy could rest on restricting institutional eligibility for participation in federal student aid programs in several ways.

One option would be to tighten up accreditation standards since accreditation is required before an institution can become eligible to participate in federal student aid programs. Some analysts argue that students who attend low-quality schools are more likely to become disappointed about their education, drop out of school, and then default on their loans. Higher accreditation standards would result in fewer low-quality schools participating in federal student loan programs, and would thus reduce the number of disappointed students who later default.

Another option would be to base institutional participation in federal student loan programs on institutional loan default rates--that is, the percentage of an institution's students getting a student loan who default on their loans. Institutions may not be exclusively responsible for their default rates, but they do bear a major share of responsibility because they determine both the quality of their programs as well as the quality of their students, especially with respect to whether the students admitted have the ability to benefit from the school's programs.

An advantage of a new policy focused on curbing defaults within existing programs is that all postsecondary institutions would be held to the same standards. A disadvantage is that such a policy might deny some youth the opportunity to attend schools barred from participating in federal student loan programs. As a result, these youth may not enroll in any postsecondary institution.

WHAT SHOULD BE THE FEDERAL ROLE IN PROVIDING STUDENT AID?

The last policy issue discussed in this study concerns what the federal role should be in providing student aid. A broad consensus exists that the primary purpose of student aid is to provide equal educational opportunity for postsecondary education. The federal government, as the largest provider of student aid, plays the central role in defining what equal educational opportunity in postsecondary education means and in seeing that student aid works to foster it. The Congressional Methodology, for example, is central to allocating student aid both because so many students get some federal aid and because it sets a legal--and moral--standard for how aid should be allocated with respect to financial need.

As explained in Chapter I, however, student aid--and perforce federal student aid--operates in the context of general subsidies, mostly public, that benefit postsecondary institutions and students. Within the existing pattern of public and private subsidies, student aid tries to promote equal educational opportunity. The success of that effort was seen in the pattern of net costs relative to expected family contribution analyzed in Chapter V.

But this study also illustrated in Chapter IV that, while the estimated total amount of subsidies that students received was generally related to financial need, the total subsidy received by students from families with the highest family income was still relatively large. For example, at public four-year institutions such students got on average more than $7,300. As a result, some observers argue that students from families with high incomes have relatively more access and choice than students from families with low incomes.

This finding raises the issue of whether the federal government--as the leading partner in the student aid system--should assume a new role and try to influence how total subsidies to students are allocated, not just student aid. The arguments in favor of having the federal government encourage the allocation of all postsecondary subsidies on the basis of financial need are straightforward and have been raised various times.[3]

The current practice of providing public subsidies to postsecondary institutions (often on a per-student basis) that allows them to lower tuition and fees for all students who attend such institutions is argued to be inefficient, inequitable, and ineffective. The basic reason the practice is deemed inefficient is that many students from higher-income families benefit from these subsidies, but would get a post-secondary education even if they were not subsidized at all. It is argued to be inequitable because many disadvantaged youth who probably would get a postsecondary education if more support were available to them--and, therefore, not to higher-income students if total aid were unchanged--are not getting that additional support and as a result do not have access to postsecondary education. It is judged ineffective because it costs taxpayers more but enrolls fewer students than would be the case if all postsecondary subsidies were allocated on the basis of financial need.

The argument against changing the federal role to encourage the allocation of all postsecondary subsidies on the basis of financial need is also well known. The Tenth Amendment to the Constitution vests responsibility for education with the states. States have generally chosen to provide postsecondary education for their residents through state institutional grants to public institutions, which results in the policy of "low tuition" discussed in Chapter I that is intended to provide access to low-income students. Some analysts also assert that this low-tuition approach has resulted in more public money going to postsecondary education and low-income students (at the cost of some money going to higher-income students) than would otherwise be the case.

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[3] Among other sources, see Frederick J. Fischer, "State Financing of Higher Education: A New Look at an Old Problem," *Change* (January/February 1990); and Robert W. Hartman, "Federal Options for Student Aid," in David W. Breneman and Chester E. Finn, Jr., *Public Policy and Private Higher Education* (Washington, D.C.: Brookings Institution, 1978).

Changing the federal role from supporting equal educational opportunity in the context of existing (largely state) subsidies to promoting equal educational opportunity through the allocation of all postsecondary subsidies on the basis of financial need would be an epochal shift. The reauthorization of the Higher Education Act of 1965, as amended, provides the 102nd Congress with an opportunity to consider doing so, as well as to address other policy issues, including those raised in this study.

APPENDIXES

APPENDIX A

THE NPSAS DATA BASE

The data used in this study come from the Department of Education's 1987 National Postsecondary Student Aid Study. This study collected data on a sample of students enrolled in postsecondary institutions in fall 1986 from the students themselves, school registration and financial aid office records, and in some cases, the parents. Because the focus of the study was to understand how students finance their postsecondary educations, detailed data were collected on student aid as well as other means of financial support.

Overall, data were collected on almost 43,200 students of whom 34,500 were undergraduates. This study further restricted the sample to dependent undergraduates who attended school full time and over the full academic year. As a result, the number of cases in the study was about 14,500, of whom about 9,400 were recipients of some form of student aid.

The variables used in this study are the ones that the statistical agency responsible for the study, the National Center for Education Statistics, prepared for general public use. Some logical editing of the data was done to eliminate cases where the responses were judged to be errors--namely, cases where federal, state, or institutional aid was reported to be twice the total reported costs of attendance. This editing rule resulted in the deletion of about 120 cases.

APPENDIX B

BASIC TABLES ON STUDENT AID

The tables in this appendix provide data that support, or are complementary to, the data presented graphically in the figures. Table B-1 presents the data shown graphically in Figure 1. Table B-2 complements Figures 2 and 3. Table B-3 complements Figures 4 and 5. Tables B-4, B-5, and B-6 complement Figures 6, 7, and 8, respectively.

TABLE B-1. FINANCIAL AID FOR POSTSECONDARY STUDENTS FROM FEDERAL, STATE, AND POSTSECONDARY INSTITUTIONAL SOURCES, ACADEMIC YEARS 1970-1971 TO 1989-1990 (In millions of constant 1989 dollars)

Academic Year	Total	Federal	State	Institutional
1970-1971	14,243	10,492	737	3,014
1971-1972	16,123	12,038	810	3,275
1972-1973	18,100	13,859	913	3,329
1973-1974	18,358	14,177	969	3,212
1974-1975	20,915	16,915	1,010	2,990
1975-1976	23,642	19,342	1,095	3,206
1976-1977	22,555	18,047	1,284	3,224
1977-1978	22,351	17,849	1,341	3,161
1978-1979	21,406	17,054	1,314	3,038
1979-1980	23,148	18,871	1,259	3,017
1980-1981	24,665	20,569	1,147	2,950
1981-1982	23,879	19,705	1,213	2,961
1982-1983	21,347	16,911	1,270	3,165
1983-1984	22,104	17,248	1,347	3,509
1984-1985	23,007	17,795	1,434	3,778
1985-1986	23,799	18,118	1,494	4,188
1986-1987	24,174	17,777	1,597	4,799
1987-1988	26,555	19,876	1,610	5,069
1988-1989[a]	27,375	20,425	1,618	5,332
1989-1990[a]	27,202	19,867	1,742	5,593

SOURCE: *Trends in Student Aid* (Washington, D.C.: The College Board, August 1990).

a. Estimated.

TABLE B-2. PERCENTAGE OF STUDENTS RECEIVING FINANCIAL AID FROM DIFFERENT SOURCES AND OF DIFFERENT TYPES, BY FAMILY INCOME AND TYPE OF POSTSECONDARY INSTITUTION, FALL 1986

Type of Institution and Family Income	Total	Source of Aid			Type of Aid		
		Federal	State	Institutional	Grant	Loan	Work-Study
Total	57	41	21	26	46	31	11
Type of Institution							
Private four-year	74	55	30	54	65	49	22
Proprietary	82	77	13	7	52	72	1
Public four-year	51	37	18	17	39	28	9
Public two-year	43	27	15	15	38	9	4
Family Income (Dollars)							
0-11,000	86	80	42	28	83	45	21
11,000-17,000	82	73	41	30	77	46	19
17,000-30,000	68	55	30	29	57	41	14
30,000-50,000	55	38	16	28	41	33	10
Over 50,000	33	15	6	19	24	14	5

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Calculations are based on full-time, dependent undergraduates. Totals include aid from all sources and of all types.

TABLE B-3. AVERAGE AMOUNT OF FINANCIAL AID FROM DIFFERENT SOURCES AND OF DIFFERENT TYPES AWARDED TO UNDERGRADUATE RECIPIENTS, BY FAMILY INCOME AND BY TYPE OF POSTSECONDARY INSTITUTION, FALL 1986 (In dollars per recipient)

Type of Institution and Family Income	Total	Source of Aid			Type of Aid		
		Federal	State	Institutional	Grant	Loan	Work-Study
Total	3,604	2,700	1,299	2,063	2,577	2,341	1,063
Type of Institution							
Private four-year	5,562	3,307	1,872	2,806	4,055	2,636	1,069
Proprietary	3,827	3,534	1,648	2,187	1,989	2,907	1,315
Public four-year	2,735	2,427	997	1,307	1,860	2,057	1,083
Public two-year	1,516	1,545	610	603	1,186	1,695	875
Family Income (Dollars)							
0-11,000	4,405	3,163	1,448	1,849	3,101	2,233	1,111
11,000-17,000	4,010	2,835	1,313	1,735	2,700	2,199	1,038
17,000-30,000	3,705	2,585	1,303	2,078	2,513	2,325	1,035
30,000-50,000	3,390	2,500	1,196	2,167	2,413	2,381	1,022
Over 50,000	2,924	2,666	1,242	2,137	2,362	2,521	1,168

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Calculations are based on full-time, dependent undergraduates. Totals include aid from all sources and of all types.

TABLE B-4. AVERAGE ANNUAL NET COST AND ADJUSTED NET COST OF AN UNDERGRADUATE EDUCATION AND AVERAGE PERCENTAGE OF TOTAL COST MET, BY TYPE OF POSTSECONDARY INSTITUTION, FALL 1986

Type of Institution	In Dollars per Student		Percentage Cost Reduction Because of Aid	
	Net Cost	Adjusted Net Cost	Net Cost	Adjusted Net Cost
Private Four-Year	6,209	7,124	43	33
Proprietary	3,600	4,866	53	32
Public Four-Year	3,097	3,498	34	23
Public Two-Year	1,935	2,049	28	23

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Net cost is cost of attendance minus any aid received. Total aid includes aid from all sources. Adjusted net costs are calculated by defining aid as grant aid plus 40 percent of loans. Calculations are based on full-time, dependent undergraduates.

TABLE B-5. NET COST OF AN UNDERGRADUATE EDUCATION RELATIVE TO EXPECTED FAMILY CONTRIBUTION, BY FAMILY INCOME AND BY TYPE OF POST-SECONDARY INSTITUTION, FALL 1986

	Ratio of	
Type of Institution and Family Income	Net Cost to Expected Family Contribution	Adjusted Net Cost to Expected Family Contribution
Total	1.01	1.32
Type of Institution		
Private four-year	1.35	1.83
Proprietary	1.87	2.75
Public four-year	0.85	1.10
Public two-year	0.83	0.92
Family Income (Dollars)		
0-11,000	1.18	2.02
11,000-17,000	1.42	2.13
17,000-30,000	1.28	1.70
30,000-50,000	0.88	1.07
Over 50,000	0.76	0.82

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Net cost is cost of attendance minus any aid received from all sources. Adjusted net costs are calculated by defining aid as grant aid plus 40 percent of loans. Calculations are based on full-time, dependent undergraduates.

TABLE B-6. FULL-TIME, DEPENDENT UNDERGRADUATE ENROLLMENT, AGGREGATE FEDERAL AID FOR THESE STUDENTS, AND FEDERAL AID PER FULL-TIME STUDENT, BY FAMILY INCOME AND BY TYPE OF POSTSECONDARY INSTITUTION, FALL 1986

Type of Institution and Family Income	Enrollment (Thousands of students)	Federal Aid (Millions of dollars)	Federal Aid per Full-time Student (Dollars)
Total	3,903	4,351	1,115
Type of Institution			
Private four-year	1,036	1,885	1,818
Proprietary	129	349	2,711
Public four-year	2,028	1,819	897
Public two-year	711	298	420
Family Income (Dollars)			
0-11,000	318	797	2,511
11,000-17,000	344	707	2,053
17,000-30,000	938	1,321	1,409
30,000-50,000	1,140	1,069	938
Over 50,000	1,164	456	392

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

APPENDIX C

SUPPLEMENTAL TABLES ON STUDENT AID

These tables contain additional data on student aid not discussed in the text. Table C-1 presents data on average amounts of student aid, by source of aid, for all full-time, dependent undergraduate aid recipients. Table C-2 presents similar data, but by type of aid. Table C-3 presents estimated aggregate federal aid for all under-graduates.

TABLE C-1. AVERAGE AMOUNTS OF FINANCIAL AID AMONG FULL-TIME DEPENDENT UNDERGRADUATE RECIPIENTS OF ANY AID, BY FAMILY INCOME, TYPE OF POSTSECONDARY INSTITUTION, AND SOURCE OF AID, FALL 1986 (In dollars per aided student)

Source of Aid by Type of Institution	Family Income (Dollars)				
	0-11,000	11,000-17,000	17,000-30,000	30,000-50,000	Over 50,000
Total	4,405	4,010	3,705	3,390	2,924
Federal	2,927	2,513	2,064	1,701	1,181
State	706	663	573	350	210
Institutional	607	642	882	1,094	1,228
Private Four-Year	7,614	7,050	6,460	5,351	3,845
Federal	3,921	3,470	2,867	2,286	1,472
State	1,482	1,348	1,079	574	270
Institutional	1,833	1,897	2,209	2,165	1,750
Proprietary	4,474	3,988	3,750	3,377	3,357
Federal	4,018	3,472	3,198	2,891	2,663
State	305	264	273	220	254
Institutional	124	162	177	201	388
Public Four-Year	3,929	3,359	2,790	2,261	1,986
Federal	2,895	2,364	1,869	1,353	846
State	569	573	408	219	162
Institutional	324	261	375	451	712
Public Two-Year	2,062	1,994	1,379	943	984
Federal	1,564	1,448	778	526	431
State	340	201	242	129	2
Institutional	114	214	216	255	355

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Calculations are based on full-time, dependent undergraduate recipients of aid. Components may not add to totals because of rounding or the exclusion of aid from other sources.

TABLE C-2. AVERAGE AMOUNTS OF FINANCIAL AID AMONG FULL-TIME DEPENDENT UNDERGRADUATE RECIPIENTS OF ANY AID, BY FAMILY INCOME, TYPE OF POSTSECONDARY INSTITUTION, AND TYPE OF AID, FALL 1986 (In dollars per aided student)

Type of Aid by Type of Institution	Family Income (Dollars) 0-11,000	11,000-17,000	17,000-30,000	30,000-50,000	Over 50,000
Total	4,405	4,010	3,705	3,390	2,924
Grant	2,978	2,532	2,091	1,782	1,682
Loan	1,160	1,237	1,399	1,425	1,034
Work-Study	267	241	210	181	189
Private Four-Year	7,614	7,050	6,460	5,351	3,845
Grant	5,343	4,684	4,138	3,235	2,325
Loan	1,812	1,930	1,950	1,821	1,310
Work-Study	459	436	358	290	206
Proprietary	4,474	3,988	3,750	3,377	3,357
Grant	2,212	1,753	1,101	472	608
Loan	2,239	2,235	2,618	2,895	2,689
Work-Study	22	0	26	11	60
Public Four-Year	3,929	3,359	2,790	2,261	1,986
Grant	2,583	2,051	1,334	954	1,016
Loan	1,059	1,087	1,271	1,176	732
Work-Study	287	220	185	130	197
Public Two-Year	2,062	1,994	1,379	943	984
Grant	1,646	1,386	957	461	809
Loan	302	473	354	431	145
Work-Study	114	135	68	52	30

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study.

NOTE: Calculations are based on full-time, dependent undergraduate recipients of aid. Components may not add to totals because of rounding or the exclusion of aid of other types.

TABLE C-3. ESTIMATED AGGREGATE FEDERAL AID TO UNDERGRADUATES IN ACADEMIC YEAR 1986-1987, BY DEPENDENCY STATUS, FAMILY INCOME, AND TYPE OF POSTSECONDARY INSTITUTION

Type of Institution	All Undergraduates	Dependent Undergraduates Family Income (Dollars) 0-11,000	11,000-17,000	17,000-30,000	30,000-50,000	Over 50,000	Independent Undergraduates
				Aid in Millions of Dollars			
Total	11,777	1,153	1,013	1,933	1,482	621	5,575
Private Four-Year	3,059	285	288	654	694	371	766
Proprietary	2,859	247	186	324	202	57	1,842
Public Four-Year	3,774	423	382	740	484	162	1,582
Public Two-Year	1,810	176	137	167	70	20	1,239
				Percentage Distribution			
Total	100.0	9.8	8.6	16.4	12.6	5.3	47.3
Private Four-Year	26.0	2.4	2.4	5.6	5.9	3.2	6.5
Proprietary	24.3	2.1	1.6	2.8	1.7	0.5	15.6
Public Four-Year	32.0	3.6	3.2	6.3	4.1	1.4	13.4
Public Two-Year	15.4	1.5	1.2	1.4	0.6	0.2	10.5

SOURCE: Congressional Budget Office calculations based on data from the Department of Education's 1987 National Postsecondary Student Aid Study using estimated full-year weights.

NOTE: Totals include all types of institutions for all federal aid recipients.

GLOSSARY

Assets: Savings and checking accounts, the value of a business or farm, stocks, bonds, money market funds, mutual funds, real estate, trust funds, and so forth. Cars and pension rights are not included as assets in the Congressional Methodology analysis of need.

Campus-based aid: Three federally supported student aid programs administered by postsecondary institutions. They are the Supplemental Educational Opportunity Grants, Perkins Loans, and Work-Study aid.

Congressional Methodology (CM): The need analysis system mandated for use by the federal government in awarding campus-based aid and Stafford Loans.

Cost of attendance: As used by financial aid administrators (FAAs), it refers to the annual budgeted costs of attending a postsecondary institution, including full tuition and fees, room and board, and miscellaneous expenses including transportation costs, books, supplies, and so forth. In this study, actual annual student-reported costs are used. Student-reported costs are on average less than the budgeted figures used by FAAs.

Default: A failure to repay a loan according to the terms agreed to when the money was borrowed.

Dependent student: A student who under federal criteria is considered to be financially dependent on her or his parents or guardians. Most students are considered dependent until they are 24 years old.

Expected Family Contribution (EFC): The amount that a family is expected to pay toward meeting postsecondary costs of attendance (students and parents of dependent students are both expected to make contributions). This amount is determined through an analysis of need (for example, the Congressional Methodology) and is based on taxable and nontaxable income and assets as well as family size, the number of family members attending postsecondary institutions, extraordinary medical expenses, and so forth.

Expected Parental Contribution: The amount that parents of a dependent student are expected to pay toward meeting their child's postsecondary cost of attendance. This amount is determined through analyzing need. Also see entry for Expected Family Contribution.

Federal aid: Student financial aid whose source is the federal government. This aid can either be provided by or administered by a federal agency. Federal agencies providing aid include the Department of Education, Department of Health and Human Services, Department of Defense, Veterans Administration, and the National Science Foundation. Federal aid can be in the form of grants, loans, and work-study aid (see separate entries on each type of aid).

Financial aid: Consists of grants, loans, work-study, and other forms of aid (for example, employer-paid tuition payments) from sources other than the family or student to help the student finance a postsecondary education.

Financial aid administrators: Officials at postsecondary institutions responsible for awarding student financial aid in accord with federal laws and other guidelines and regulations.

Financial need for aid: An amount determined in analyzing need by subtracting the expected family contribution from the student's cost of attendance.

Four-year institution: Postsecondary institutions that award a baccalaureate degree.

Full-time student: In this study, a student enrolled for the entire academic program or year, whichever is shorter, for 12 or more semester credits per each semester, 12 or more quarter credits per each quarter term, or 24 clock hours per week in institutions that measure progress in clock hours.

Grants: Also known as scholarships, these are funds for postsecondary education that do not have to be repaid.

Guaranteed Student Loan: The former name of the Stafford Loan.

Independent student: A student who under federal criteria is considered to be financially self-supporting. Veterans and most students 24 years of age or older are independent.

Institutional aid: Aid provided to students by postsecondary institutions.

Loan: Borrowed money that must be repaid.

Need analysis: A system used to determine a student applicant's need for financial aid to meet postsecondary costs of attendance. It consists of two parts. The first determines the student's cost of attendance. The second determines the expected family contribution. Examples include the Congressional Methodology and Uniform Methodology.

Need-based aid: Student financial aid awarded on the basis of financial need as determined through an analysis of need.

Net cost: The amount that a student and her or his family actually pays for postsecondary education. It is calculated as total cost of attendance minus any financial aid received.

Nonneed-based aid: Student financial aid awarded on criteria other than financial need. Can include academic, musical, athletic, and other forms of merit or achievement.

Other aid: Student financial aid from nonfederal, nonstate, and noninstitutional sources, such as corporations, unions, fraternal organizations, and community groups.

Package: The total amount of aid received by a student from a combination of types and/or sources of financial aid. Financial aid administrators are responsible for assembling aid packages to be sure they conform to federal and other rules and guidelines.

Pell Grant Program: A federally funded grant program that provides funds to eligible undergraduates showing financial need.

Perkins Loan: A type of campus-based aid, this is an institutionally administered loan program that receives federal funding to make low-interest loans to needy students.

Private nonprofit institutions: A postsecondary institution controlled by an individual or agency other than a public (for example, state or federal) agency, which is usually supported primarily by other than public funds.

Proprietary schools: Private for-profit postsecondary institutions that generally specialize in providing trade, vocational, business, and occupational programs. Many offer programs of less than two years duration, although some award post-baccalaureate degrees (for example, law degrees).

Public institutions: A postsecondary institution operated by publicly elected or appointed officials in which the program is under the control of these officials and is supported primarily by public funds.

Remaining need: The amount of financial need (determined through an analysis of need) that is not met with financial aid.

Stafford Loan: A federally guaranteed loan program in which a student may borrow from a lender (for example, a bank) and the federal government will guarantee repayment. The federal government pays the interest while the student is in school, charges a below market rate of interest to the student after leaving school, and guarantees lenders a minimum rate of return.

State aid: Student financial aid whose source is a state agency.

Supplemental Educational Opportunity Grant Program: A campus-based, federally funded grant program for needy students.

Title IV Programs: Those federal student financial aid programs administered by the Department of Education and authorized under Title IV of the Higher Education Act of 1965, as amended. Title IV programs include Pell Grants, Perkins (formerly NDSL) loans, Work-study, Supplemental Educational Opportunity Grants, Stafford Loans (formerly, Guaranteed Student Loans or GSLs), Supplemental Loans for Students (SLS, formerly ALAS), Parent Loans for Undergraduates, State Student Incentive Grants, and the TRIO programs (including Upward Bound). The Congress annually appropriates funds for these programs.

Tuition and fees: Amounts charged by postsecondary institutions for instructional services (tuition) and additional services that the tuition charge does not cover (fees).

Two-year institution: Postsecondary institutions (for example, community colleges) that confer at least a two-year formal award (degree or certificate) or whose program credits apply toward a baccalaureate or higher degree.

Undergraduate: A student enrolled in a four- or five-year baccalaureate degree program, in an associate degree program, or in a vocational or occupationally-specific program below the baccalaureate level.

Uniform Methodology: A need analysis system in widespread use until 1988-1989 (when the Congressional Methodology replaced it among most users).

Work-study: A generic term for programs designed to provide part-time employment as a source of funds to pay for postsecondary education as well as a federal program that is administered through postsecondary institutions.

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